

GRAIN

A PRODUCT and A NAME-

Many a trade name has become so well known that the public often considers all similar products by the same trade name.

So it is with Weevil-Cide, which is so generally known and widely accepted by the grain trade that many associate all "weevil dopes" (in general terms) as Weevil-Cide.

By sheer merit alone, and an undeviating record of results

Weevil-Cide *The* **DEPENDABLE** **GRAIN FUMIGANT**

has earned this distinction.

The underlying factors behind this preference of the grain industry are economy and results.

We have never claimed Weevil-Cide to be the only grain fumigant on the market; but honestly believe it to be the best. And we feel certain you will agree with us if you will use it anywhere near like we recommend, and compare its economy and results with any other method of cooling insect heated grain; and the freedom from reinfestation your grain will have during the storage season.

Remember, Weevil-Cide is the registered trade name of a distinct, a superior grain fumigant.

Information with recommendations to fit your particular problem of treating will be sent you; so write



THE WEEVIL-CIDE COMPANY
INSECTIDES FOR THE GRAIN INDUSTRY

1110 HICKORY ST.

KANSAS CITY, MO.



DO YOU SPEAK OUR LANGUAGE?

IF you've ever noticed, any of the individual professions and trades that a young man of today might choose to stake his future on has a language all its own. When two lawyers come to your house for dinner, you can't understand a word they say. They enter objections and take exceptions. They demurrer and habeas corpus all over the place. Two chemists will oxidize and hydrate and polymesmerize. Accountants tally, pro, and post. Bankers quibble about items in transit.

What is your language? Do you talk about legs and heads, buckets and galleries and slips? Do you face sleepless nights worrying about setbacks, chokes, spills and heating? If you do, then meet the people who worry about the same things. Talk with them. Tell them your experience. Listen to theirs. Learn how other members of the profession are answering the same questions that have perplexed you. Get the latest ideas in your field and use them to your own advantage.

There is much that you can share with us—much with a dollar value, and there is much that we can share with you—if you speak our language. Write to our secretary today for a membership application blank and let him introduce you to the people who speak your language.

SOCIETY OF GRAIN ELEVATOR SUPERINTENDENTS

Board of Trade

Chicago, Ill.

EDITORIAL

A LESSON FROM THE NAZIS

“IT is high time for North Americans to get some of the brawn of their pioneer forbears and quit being dainty, steam-heated, rubber-tired, beauty-rested, effeminized, pampered sissies softened by a thousand and one civilized gadgets and contraptions.

“It is time to become a little crude and stick out our jaws, set our teeth and quit loafing in the lap of luxury.”

The above was written by Dr. Victor G. Heiser, author of “An American Doctor’s Odyssey” and Consultant to the National Association of Manufacturers’ Committee on Healthful Working Conditions. I think that you will agree that most of those epithets are applicable to practically all of us.

Now here are some facts pertinent to why we should try in some way to cease being “dainty”.

1. “Manpower is the heart of North American defense”. It takes 17 men behind the line to keep one soldier on the firing step.

2. “Four percent of the total working time of the average employee is lost through illness or injury . . . ninety percent of the loss is due to ordinary illnesses, and only a small part to occupational disease”.

3. Four percent of total working time lost means at least a two percent loss of the total income of North America’s wage-earners (even when compensation and insurance are accounted for.)

4. History and science teach us that the general physical wellbeing of a nation is vital to that nation’s continued existence as a strong, progressive community.

The Nazis have (because of their form of government) put the theory of their doctors to actual practical application. The German Nazi war machine is a marvel of efficiency, we all admit. Why? Because of the fitness of its personnel AND because of the fitness of the men and women in the factories behind it. German science and industrial technique alone are not superior enough over that of the other countries to be the single or outstanding factor in the triumph of German arms.

Without condoning the ends to which the Nazis have put their power, or the methods by which they achieved their organization of the German people, we must examine the results and try to achieve more for ourselves by our own democratic methods.

Doctor Heiser believes that the health of our industrial workers can be improved tremendously by the establishment of a voluntary health program, based on industrial clinics designed to eradicate occupational and non-occupational disease, injury and fatigue. (Companies practicing proved industrial health technique have cut the lost time through illness by 30 to 60%.)

Specifically speaking the following are a few of the things which should be universal in our industrial establishments and which would, if in general practice, do much to put our workers on a par regarding physical stamina with the dictator nations: (1) forced ventilation systems in plants where dusts, fumes, temperature, and humidity are injurious; (2) special industrial diets or diet auxiliaries such as salt and sugar gum tablets for workers in industry; (3) quiet places of work for precision workers and detailers; (4) protective equipment on machinery and for men; (5) sanitary conditions in all parts of any plant, and (6) physical examinations and placement of workers according to their physical ability as much as possible.

The industrialist must team up with the physician as well as with the chemist, the physicist, and the inventor if our manpower is to be brought up to the supremacy which our technical knowledge and the quality of our products already have.

GRAIN, Board of Trade, 141 W. Jackson Boulevard, Chicago, Ill. Telephone Wabash 3111. A forum for operative and mechanical problems in terminal and sub-terminal grain handling and processing plants. Published monthly on the tenth. DEAN M. CLARK, Publisher; KEN VIX, Editor; C. GIBSON FRANKS, Staff Artist.

DON'T LEAD WITH YOUR CHIN!

●

A fighter is careful to keep his guard up, to keep himself protected. You can protect yourself by protecting your elevator legs from the hazards of dust. Use

ROBERTSON SAFETY VENTILATORS

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A fighter is careful not to be caught off balance. You can secure the balance that you need in storage-bin ventilation with

ROBERTSON CAPACITY VENTILATORS

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A fighter always eliminates waste motion. Eliminate your waste motion (maintenance) by using roofing and siding of

ROBERTSON PROTECTED METAL

Write today for information

H. H. ROBERTSON CO.

Farmers Bank Bldg., Pittsburgh, Pa.

VISUAL AIDS

for SAFETY EDUCATION

Three talkie films on the different aspects of the safety problem have been made available for group showing by the Superintendent's Society. The necessary equipment for showing these 16 mm strips can be procured in your own city, and the small rental charge of five dollars (plus shipping) for the three makes it possible for you to present an interesting and educational program at very little cost. Write to the Secretary for open dates.

● Dangerous Dusts

A filming of recent explosions, their causes and their prevention.

● The Fall Guy

A summary of prevention lessons for the commonest cause of industrial accidents.

● Open for Infection

Lessons in first aid and the prevention of infections aptly pictured.

Society of Grain Elevator Superintendents

●
4100 Board of Trade

●
Chicago

Accident Causes and Remedies in the Grain Industry

By CLARENCE W. TURNING

ACCIDENT causes are found by a thorough investigation of accidents and near accidents, as they occur. One reason why industries have fewer accidents due to machine failure than to human failure, is because we investigate the machine accidents. Perhaps if we would properly investigate all accidents, we would find ways and means to reduce the number of accidents caused by unsafe practices.

As Mr. E. R. Cott said a few years ago at the National Safety Congress: "The problem of accident prevention on a dock or elevator property is similar to that of any other industry. Even with good stairs, steps, walks, runways, etc., with proper railings and guards, there is the ever recurring possibility of slips and falls. We have the boiler installations of the average plant, and of course, car tracks, over which engines and cars are moving. Laborers get hands and feet in the way of these moving objects and massive machines. However, in a manner of speaking, every plant has these hazards, except that we have the hazards from the water front. In the ordinary plant there is no danger of falling in and drowning."

The solution of any problem depends on the correct and complete statement of the problem before the solution is attempted. Therefore, if our problem is pretty much the same as that of the average industry, we can well adopt the successful safety plans which have been used in other industries, and as time goes on, better adopt them for our own particular operations.

POOR ON INVESTIGATING

IT is my opinion that the accident investigation reports in our industry are below average, and that rarely do they have the complete story. As any report form is made to cover general conditions, and no accident meets the general conditions, better investigation is necessary, followed by a complete record of the facts. Prompt investigation is essential. In many cases the investigator can, without much trouble, secure information immediately following an accident which

would not be possible to secure at a later date.

Complete, prompt and impartial investigation of accidents is important, because unless we improve our reports of accidents and go deeper into the direct and indirect causes, our problems will be more or less obscure, and being partially unknown, cannot be solved.

As to the types of accidents experienced in our industry, we have almost every kind—and the proportion of each kind is about the same as for the average industry. As there is a mass of machinery, and few men working in the average plants, the proportion of machine accidents is high, and therefore our severity rate is higher than for the average industry. Our average frequency rate is not much above that of the average industry. The records of the few companies who have compiled accident statistics over a period of years would so indicate.

SAFETY pays dividends both to our pocketbooks and our consciences. In this article Mr. Turning, noted and professional safety expert, shows the difference in hazard of operation between grain and other industries and then gives a large number of very practical suggestions to bring the grain industries casualty list down to the size of the other industries lists.

MORE THAN OUR SHARE

WE seem to have more than our share of back strains. Much can be done to eliminate strains by educating employees in the correct method of lifting heavy objects. It is essential in lifting or moving such objects, that they be held with a firm grasp, that sudden and violent jerks be avoided, and that the lifting be done with the leg muscles rather than the back and abdominal muscles. The back should be kept straight, the legs should be bent at the knees and the feet should be placed directly in a vertical line with the shoulders.

We also have a great number of injuries from falls. The number is greater than it should be, but it is natural that we have more than in the average industry, as so many of our men go into high places; and are probably in too much of a hurry in getting around.

Unusual conditions cause accidents. Sometimes they are difficult to foresee, and often cause us considerable trouble, before we can organize to combat them.

As an example, during the hot summer of 1936, there were several cases where dock workers were overcome by the heat at Duluth and Superior. The foremen did not anticipate such conditions, as it is very rare indeed that such hot weather is experienced in the Lake Superior region. The preceding winter was very cold and in the Milwaukee district quite a number of the dock and yard workers experienced frost bites. The peculiar things about these two extreme weather conditions was the fact that there were no frost bits in the Lake Superior region, but there were many at the Lake Michigan ports; and during the hot weather there were no heat prostrations among the Milwaukee dock workers, but there were several at the head of the lakes. We assume that the Duluth and Superior men were prepared for cold weather, but not for warm days; and the Milwaukee men knew what to do when it got too warm, but not when it was severely cold.

Both conditions were pretty well combated on the docks where the foremen allowed the men necessary rest periods: in the cold weather to warm up, and in the hot weather to cool off.

DISCOVER THROUGH INSPECTIONS

INSPECTION: Proper inspection by an inspector, or an inspection committee, is the means of discovering hazards before they cause an accident, and if the hazards are immediately corrected, the plant is always kept in a safe condition. In many of our plants, the inspection committees are doing very good work.

Guards: Many of the superinten-

dents seem to feel that their plants are so well guarded that no new guards are required, and that guarding from now on is almost entirely a maintenance problem. We are not inclined to agree with this as we have too many machine accidents, and feel that some of them would be prevented by more attention to machine guards.

Safety records: As far as we know, the best safety record for a feed mill is that made by the Nashville plant of the Ralston-Purina Company, working 620,000 man-hours without a lost-time accident. However, several grain mill plants have had almost as good a record. One large grain elevator at Duluth has gone over four years without a lost-time accident.

There are many plant safety publi-

cations in the grain industry. All of these are filled with valuable data, featuring accident prevention. There are also some good employees' publications in our industry, and most of them devote adequate space to accident prevention work.

It is very important to teach the new man the company rules, and fundamental safe practices. Safe working habits are a big factor in efficiency and with proper training, good working habits are just as easily formed as bad ones. Every workman, new or old, should understand the fundamental principles of safety. He should always use the safeguards provided by the company. He should understand the necessity of reporting for first aid, for every little cut or scratch.

FOUR BIG CAUSES

STOP all dangerous practices. A great majority of accidents are due to carelessness, recklessness, and ignorance. Four big causes of accidents are: Men falling from high places; objects falling on men; men dropping things; handling tools.

A safe workman should know what the laws and ordinances say about safety subjects, as well as his company rules on these matters. Nearly all of us own and drive cars. Our safety duty does not end when we leave the plant, and all of us should be well versed in the state motor vehicle law and the local traffic ordinance.

Every day workmen are injured by falling objects, or because they trip, stumble, slip or step on objects that are in their way. Many of these accidents could be avoided by keeping the plant orderly and "picked up." Provide a place for everything and keep everything in its place.

Safety bulletins contain brief suggestions on safety and accident prevention, and it is a mighty good habit to form—to read all safety bulletins which are posted.

Electrical repairs should be handled only by the plant electrician. Other workmen should not attempt to repair motors, wires, switches, or any other part of the electrical equipment. Do not attempt to put out an electrical fire by the use of water or soda acid extinguishers or any type of extinguisher which includes water. The water is an electrical conductor and may be the means of a serious electrical shock.

Many accidents occur on unusual jobs—such as repair jobs and construction jobs. Be especially careful when engaged in some work which is outside of your routine duties.

Every man should learn how to use the fire extinguishers or other fire fighting equipment which has been provided in his department.

SAFETY TIPS

Let employees have a chance to participate in safety programs. Most of the time their suggestions are practical and economical. Furthermore, after the occurrence of an accident to themselves they can tell a lot of what might have been done to prevent that accident.

An employe was unplugging an air lock feeder at a bran dryer. Make-shift equipment, consisting of a putty knife, instead of a long bar, and a 15 inch pipe which he stood on instead of a ladder, was the cause of his slipping and catching his hand in the feeder. He lost two fingers. Still another error was made by having the feeder running while under repair.

However, to make the feeder fool-proof an agitator now has been installed to lessen the chance of a plug-up, and a mercury switch put on the machine which automatically stops the equipment when the cover is raised.



This Christmas—be a partner in a great life-saving campaign. Use plenty of Christmas Seals on your letters and packages. They are gay, colorful . . . and what's more important . . . they spread a message of Tuberculosis control and prevention that is vital to the good health of us all!

Since 1907, the annual sale of Christmas Seals has done its share in helping to reduce the death rate from Tuberculosis by 75%! Complete eradication is now in sight! But no one is safe from Tuberculosis until everyone is safe. So help yourself — by helping others!



BUY

CHRISTMAS

SEALS

The National, State and Local
Tuberculosis Associations
in the United States

**SAFETY SUGGESTIONS FOR TERMINAL
GRAIN ELEVATORS, FLOUR MILLS,
AND GRAIN PROCESSING PLANTS**

1. Smoking or carrying matches* is dangerous in all elevators and mill buildings, except in the main office or in rest rooms.

2. Either correct or report any hazardous condition you may notice, such as open holes, obstructions on dock or passageways, boards of grain doors laying with nails sticking up.

3. Report any piece of machinery, cable, ropes or appliances, which are out of condition, or defective, to the office.

4. Use extreme caution in crossing all conveyor belts.

5. Always be careful in passing between cars in train yard or elevator yard.

6. See that all dark places are properly lighted when plant is in operation.

7. See that all fire doors are closed.

8. When working above ground, see that no material or tools are left, so that they might fall and cause an injury to persons below.

9. When working on Bos'n chairs or swinging scaffolds, see that all blocks, rope, gear and scaffold are safe before leaving the ground.

10. In working on any conveyor leg belt, or any machinery, a "Man Working" sign should be hung on the motor that runs the equipment on which they are working, or the switch to the motor should be locked.

11. When completing a repair job, or construction job, see that unused material, rubbish, oily waste, etc., are cleaned up.

12. When using extension lights down in bins, always see that the cord and vapor-proof globe are in good condition, before using.

13. See that all bin tops are kept in place over bins and spout openings, in gallery.

14. Use extreme caution in cooping cars to prevent accidents from nails in the lumber and grain doors used.

15. When cars are cleaned out, see that all rubbish is cleaned up as soon as possible.

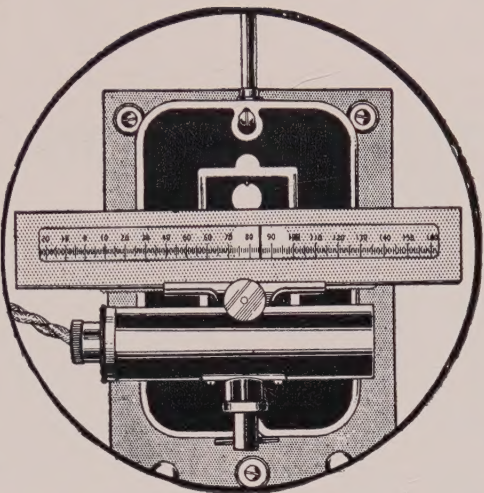
16. When using car puller for setting cars, always use warning signal whistle before starting.

17. Check all cars and unloading machines, before unloading.

18. See that all dock spouts and gangways are securely tied and high enough to prevent injury to persons walking on the dock.

19. Car pullers are a source of danger, whether in motion or not. Be careful not to trip over cable. Before starting cable, be sure no one is in danger.

A BIN OF GRAIN



ZELENY THERMOMETER COMPANY
542 South Dearborn Street **Chicago, Illinois**

holding 30,000 bushels in storage, valued at only 50 cents a bushel, would mean a loss of \$7,500 if one-half of the contents should overheat.

Let the Zeleny Thermometer System warn you of impending trouble.

20. Dust sweeping is not just plain drudgery. It is necessary to keep the elevator and mill clean to reduce the danger of a dust explosion.

21. In trimming bins, never get below the material in the bin. Wear a safety belt. Always have a man with you. Drop cords should not be used in bins.

22. Don't tear out grain doors and leave them lay. They are serious tripping hazards. Don't leave them scattered about.

23. From Superintendent to sweeper, every employee must be familiar with our hazards and take an interest in overcoming them.

24. No adjustments or repairs should ever be made while a conveyor is in motion.

25. Oiling of conveyor equipment should be done while the machinery is idle, unless it can be done without the oiler coming near dangerous moving parts.

26. Do not cross over exposed conveyors except at regular cross-over points.

27. It is very dangerous to ride on conveyors, and this should never be done.

28. Never attempt to remove material through inspection doors of bucket conveyors when the plant is running.

29. It is important that the track along car hauls be kept clean and free from all obstructions and material.

30. Every type of machine presents an individual problem, but careful study will reveal a safe and logical method of solving the hazards of oiling.

31. The sowers of safety are reapers of happiness.

Who's Next?

A CABLE broke, fell and struck an Illinois employee on the head, severely injuring him.

A MPUTATION followed the catching of an employees' right hand while throwing a machine into gear.

F RITION burns resulted when a Kentucky employee clung to the remaining rope on a man-hoist—the other rope breaking.

T HE back and left arm of a Minnesota employee were severely injured when he became caught in some fast revolving machinery.

A DEEP head cut resulted when a steel square was dropped into a tank where a New York employee was working.

A N ALCOHOL unit exploded burning two Missouri employees very badly.

S CAFFOLDING gave way; two Illinois employees fell 54 feet to their death.

A HEAVY board fell on the foot of an Indiana workman, crippling same.

C LEANING out a choke, someone turned on the "juice" unexpectedly. Result: one forearm gone.

L IGHNING killed one and painfully injured two in Iowa.

A FALL from a ladder resulted in injuries killing an Ohio worker.

C UTS in an eye and across the face resulted when blower pipe fell.

A BROKEN leg is the unwelcome souvenir received by a Kansas employee when a pile of sacked feed fell on him as he was working nearby.

THE TIN GOD ASH

By Rowland J. Clark

Shellabarger Mill and Elevator Company

A Sales Talk

▲ While visiting the chief superintendent of a large system of bakeries recently, the writer was permitted to listen to the sales talk presented by a flour salesman to the baker. This salesman represented one of the largest mills in the country. He was considered a very progressive and a very aggressive representative. His entire talk was based upon the wonderful possibilities of the protein and ash in his new crop flour as compared to that in his competitors' and his own old crop flours. After talking fifteen minutes, the baker dismissed him with the blunt assertion that flour had been booked for the rest of the year and he was not interested in new commitments.

This salesman could not talk the baker's language of flour performance; he failed to make a point of contact, and, thereby, failed to gain the baker's interest when he spoke in the chemical language which neither he nor the baker understood. This is only a typical example of dozens of sales talks to which the author has listened. Instead of ash quotations dying out they are being encouraged and advertised not only by many bakers, but also by a surprising number of mills. Cars of flour were rejected ten years ago because of the ash specification, and they are being rejected today for the same reason. No progress seems to have been made by the industry in its thinking along ash lines.

Judging from the demand for a low ash in the flour regardless of its baking performance one would be led to think that high ash flours were worthless; and they actually do command a lower price than the short patent low ash flour as a rule. The writer has had many experiences along this line, three of which stand out as prominent examples of the homage paid to our Tin God Ash.

Some years ago a Jewish baker in the state of New York bought from a Kansas mill a supply of flour. The mill salesman sold the baker a true 95 per cent extraction flour because the baker said he wanted a "short patent." In due time the flour reached the bakery. After the very first bak-

ing the mill was called and the car rejected. The flour had made terrible bread. The baker demanded that the flour be removed so he could start using another brand. This was done at great expense to the mill.

Chemists Called

▲ At this point the mill chemist was called in to help because the baker had a sizable undelivered booking. It was thought by the mill executives that this 95 per cent flour was not milled up to standard. Upon investigation, the chemist found the flour delivered was perfect in every respect; but he learned that the baker made nothing but pumpernickel bread. The

IF you've read the first part of this absorbing debunkment, you won't fail to finish reading it: If you haven't, tune in on a big surprise and a "feet on the ground" argument against a prevalent false notion on what is what in flour quality.

chemist therefore convinced the mill that first clear should be furnished this baker instead of 95 per cent. The baker took the clear grade, liked it, the price was lowered under what had been paid for the 95 per cent, and the baker remained a satisfied customer.

The ash content of the 95 per cent was .41 per cent, but the ash of the clear was .60 per cent. The higher ash clear flour, however, was needed to make pumpernickel bread.

Not many years ago a Kansas mill sold a baker in Houston, Texas, a booking of 95 per cent flour. This flour failed miserably in making French bread. It had to be removed at a loss to the mill and the booking was cancelled. A competitive mill placed a stuffed straight in this bakery and it delivered satisfaction. The ash of the 95 per cent was .41 per cent and that of the stuffed straight was .52 per cent.

A few years ago one of the large baking firms of the country rejected a car of Oklahoma flour because it analyzed .008 per cent above the ash

specifications. The rejection was made on the basis of an advance sample which was analyzed before the car reached its destination. The broker who had made the sale submitted a sample from this same car to another baking firm. This company not only took the car of flour rejected by the first firm, but made a sizable booking for more flour from the same mill based upon the showing made by the high ash flour. One firm placed all its faith in the ash test, thereby paying good prices for uniform ash flour regardless of baking values. The other firm realized that flour is consumed in baking not as a boiler fuel where low ash and soft clinker formation is essential. It saved money and made better products by selecting flours of good baking performance.

Thus it is not true that low ash is a criterion of flour quality when these and countless other instances in which higher ash flours deliver baking satisfaction occur daily.

Flour ash has been taken out of the cereal laboratory and broadcast throughout the land. Flour ash is a technical term and should remain in the hands of technical men until properly interpreted. Flour ash is a term which belongs to the chemist and the miller. Nothing would prevent the baker who maintains his own laboratory analyzing his flour for ash. If to him the ash thus obtained means only purity of wheat separations in a very relative sense, then ash serves its purpose. When, however, ash is made the sole basis for flour rejections, the test is out of its sphere and has become a Tin God.

Confusion Results

▲ Placing flour ash figures in the hands of salesmen, not technically trained, leads to the same confusion as would result if a car salesman were armed with the analysis of the steel in his car springs when he went out to sell automobiles. The car salesman does not know such an analysis; he does not care about such an analysis. Only with great difficulty could he learn such an analysis, because his factory regards such information as strictly its own business. Both the car salesman and his cus-

PREFERRED!



SUPERINTENDENT WILLIAM H. GASSLER SAYS:

"As far as we can determine at this time, the workmanship and materials used on our Calumet Elevator last summer have proven quite satisfactory."

Caulking operations are shown in the center view; at the left the walls are being prepared for our elastic **Surfacite**—which is shown being applied in the view on the right.

Surfacite *Waterproofing*



... Preferred because all disintegration and cracks are repaired with GUNITE, which is stronger than concrete, is hard, dense, waterproof with perfect bond to the old concrete.

... Preferred because then all surfaces are covered with the soft, elastic material—SURFACITE—many times the thickness of ordinary waterproofing.

... Preferred because SURFACITE compensates for movement by a tough elastic hide and with a long-life flexible material bonded to the concrete.

You, too, will PREFER our services after we have gone over your problems, submitted facts, ideas and costs.

JOHN D. BOLTON -- GUNITE CONTRACTOR

20 NORTH WACKER DRIVE

CHICAGO, ILLINOIS

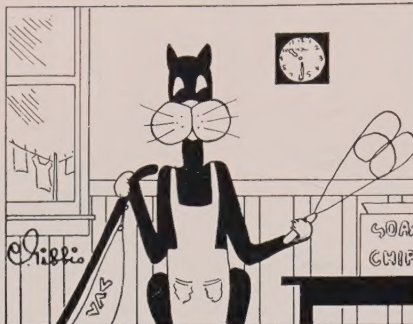
tomer, however, are vitally interested in the car's performance. It matters considerably how the springs absorb the shocks of the road and how quietly the motor runs. Long life of the car is taken for granted. Baking performance of a flour (expressed in absorption, mixing time and fermentation time) likewise is the true measure of flour quality, regardless of how high the Tin God Ash may be exalted. Therefore the schooling of mill representatives in the baking performance of their flours permits them to talk the bakers' language as well as deal with fundamental values in establishing their contacts.

To what heights has the throne of the Tin God Ash been built? It is so important to hold flour ash uniform regardless of baking quality that the mills must analyze the flour for ash every hour. What happens when it varies? The car receiving the flour in question is held up, unloaded and the flour may be rebolted or fed back into the mill just to reduce the ash. Such care in manufacture would be fully justified, if true flour quality expressed in baking characteristics were found to be correlated with ash uniformity; but, when worshipping at the shrine of ash uniformity, such care is useless expense.

It is expensive to worship at the shrine of the Tin God Ash for after the uniform ash flour is sold, milled and delivered, who can translate flour ash into the baker's language? Does ash mean more loaves per barrel to the baker, does it cut his overhead by reducing his mixing time, does it mean less fermentation time, less yeast, more malt? It means none of these things. The ash has been bought and paid for at a good price. It is in the flour but it means nothing

SNOOPER

The Boiler-Room Cat



She-wimmin have their Spring and Fall house-cleaning, but it's always house-cleaning time in YOUR plant.—C. Gibson Franks.

ing to the baker in the regulation of his shop. The baker has followed a false prophet and must rely upon the true prophet (that of baking performance) to recover his flour costs. And yet the Tin God Ash has been adorned with all the trimmings of modern improvements and there are those who apparently enjoy worshipping at the shrine of their idol.

More Sham

▲ The information really furnished by flour ash has been pointed out. Its fundamental meaning and purpose has been found to be confined to the chemist and to the miller as an accurate yardstick of flour purity. This was before ash received its throne. The present customs and practices since the Tin God Ash became the ruler of milling and baking have been described. Let the attention now be turned to some reliefs from such false

and make-believe shams of flour quality measurement.

What is the object of milling flour? If the flour does not meet the baking needs of the consumer, the mill is closed and a court takes over the settlement of the business. The major objective then, or the goal, is to mill flours that will bake the products for which they are intended. The yardstick which underlies all others and which must receive recognition either consciously or unconsciously is the yardstick of baking characteristics.

The objection is raised that it is impossible to control the mill by the baking test, that the ash test takes long enough, but that baking is out of the question. Most mills grind the wheat several weeks after the mill mix is made up. By controlling the baking quality of the mix several weeks ahead of the mill, the baking characteristics of the flour are determined and regulated. Milling can change these characteristics a little; but, on the whole, the baking quality of the wheat determines that of the flour.

As has been stated, flour is consumed in baking, not in coke manufacture or as fuel for a boiler. The bakery purchasing agent may specify an ash figure for the flour, but the flour is consumed in baking. The bakery production man having the responsibility of baking good bread day after day talks in baking terms. The nature of his daily work leads him to think in these terms. He welcomes information on his flour's baking performance. Therefore, if the miller always considers the way in which his flours bake, he will be controlling his mill and making it come up to a true standard. If the miller maintains uniform baking results, then he knows that the baker will have no trouble because the flour is used for baking. The ash may vary if the baking qualities are held uniform; however, it is the performance in baking and not uniformity in ash which is of paramount importance.

One of the chief reasons given by bakers for using ash specifications is that it identifies the grade of flour considered. This is a wrong conception of ash. It does not denote flour grade. Any miller will readily agree that it is very easy to meet an ash and even a protein requirement and yet have a flour that is poor in baking quality. In using ash as a check on a miller's honesty in the delivery of a definite flour grade, the baker displays his ignorance, not his knowledge, of flour quality. For instance, what is to prevent the miller, if he wishes, from blending low ash soft wheat with medium ash hard red winter wheat and lowering the grade of flour, thereby maintaining a uniform ash to meet specifications? So far as ash specifications are concerned, they were uniformly maintained but the grade or percentage of extraction had to be changed or suspicion would have been invited by too low an ash. Bak-

CALUMET CUP

"IT'S ALL IN THE CUP"

NO EXPENSIVE CHANGES IN EQUIPMENT. ANSWERS YOUR NEED OF INCREASED CAPACITY — PERFECT DISCHARGE.



U. S. Pat. 1944932

Designed for close spacing—90% carrying capacity—perfect discharge at greater speed for any type of Elevator.

In general use by many of the largest Processing Plants, Grain Elevators, Malt Houses.

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322 S. La Salle St., Chicago, Ill.

THE STRONG-SCOTT MFG. CO., LTD.
Toronto WINNIPEG Calgary
Licensed Manufacturers for the Dominion of Canada

R. R. HOWELL & CO.,
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Trade Mark Reg. U. S. Pat. Office

ing uniformity and quality would thus be impaired.

A Practical Question

▲ A very practical question is raised, namely, that ash is here, that it must be dealt with as a practical every-day problem. Flour orders cannot be rejected because of an ash requirement, because some competitor will agree to such milling and take the business. Ash received little attention by the baker until the miller began quoting ash and prices simultaneously. Ash has now become confusing to both baker and miller. Instead of receiving less attention, it is receiving more.

What will give relief from ash? Start to talk about the true value of flour, i.e., its baking value, what it does in the dough mixer, what absorption it requires, what it does in fermentation, in the makeup machinery, in proof and in the oven. Mention the ingredients with which it makes its best bread. Does it require malt extract, does it need lots of sugar, or does it take a small amount of salt?

The question may be raised that the baking test is not sufficiently accurate to become a basis for flour buying. It is the basis for consumption, then it must be accurate enough for buying. In order to have mile posts along the way by which to guide the baking test in its evaluation of flour, a system of physical tests can be used. These tests can be used to determine the different steps required in the flour's baking performance.

A baker is concerned primarily with three characteristics of a flour when it is baked. These are absorption, mixing time and fermentation. In the laboratories of the Department of Milling Industry, an absorption test has been devised which has been found to be a very quick and accurate method. Mixing time for the dough is easily and definitely found by using the Swanson Recording Dough Mixer. Fermentation time of a dough can be found by actually fermenting doughs for various periods and selecting the time producing the best loaf as the correct period for the conditions of absorption and mixing time already found. Fermentation time may also be found by a determination of the gas production and the gas retention of a dough.

The seeds of ash education were planted in the minds of bakery purchasing agents years ago. The seeds of baking performance can be planted in the same manner for future development. They will become much more binding because performance in the bake shop is the true evaluation of flour quality. Flour ash will then be debunked as a Tin God. Its trimming and tinsel will be removed and there will be in its place a firm basis upon which to buy and sell flour.

When, therefore, baking performance is accepted as the true evaluation of flour quality, flour ash will cease to hold its throne and will be

EFFECTIVE WEEVIL CONTROL THROUGH 1 TIME TREATMENT

Grain held in storage for six months (often longer) following the inexpensive LARVACIDE Treatment, can be expected to show no evidence of further insect damage.

THIS has been the experience of large handlers, with grain having the proper moisture content for storage (such as 13 or 13½%) treated at this season with LARVACIDE, as directed. • Fumigation with LARVACIDE helps save the cost of further treatment and continuous turning to reduce temperature • The LARVACIDE Treatment further tends to relieve the grain of that slightly musty odor and to sweeten it. • LARVACIDE may also be used to give excellent RODENT CONTROL, bringing these pests out to die in the open, without carcass nuisance. • LARVACIDE is giving satisfaction and saving money for operators of Terminal, Country and Mill Elevators • Write for booklets on Grain Fumigation and Rodent Control with LARVACIDE, as used by progressive elevators throughout the country.

Larvacide

CHLORPICRIN

Cylinders 25-180 lbs. and 1 lb. bottles, each in safety can; 6 and 12 to wooden case. Stocked in major cities.

INNIS, SPEIDEN & CO.

Established 1816

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CHICAGO • CLEVELAND • BOSTON • PHILADELPHIA • OMAHA

relegated to its proper place as a technical term by which the chemist can aid the miller in the operation of his mill.

WHERE LIGHTNING STRIKES

The areas most subject to lightning storms are those receiving abundant moisture and producing large crops, say authorities.

WIMMIN KNOW THAT?

Paint experts say that an object may appear heavier in weight if painted red or orange, lighter in weight if colored blue or yellow. Wonder if the wimmin know that?

SENSITIVE SKINS

MACHINISTS in elevators and other men whose skin is sensitive to the irritating action of dust can protect themselves against dermatitis by the simple expedient of using a bland cold cream which will keep bacterial infested cutting oils and penetrating dusts out. Dermatitis can cause much hardship and economic loss to both employe and employer and working efficiency is cut down tremendously. The grain industry, generally speaking, does not have much trouble with the disease, but to those few individuals who do the above inexpensive remedy is completely effective.



Froedtert Grain and Malting Co. Dumper at Milwaukee

SPEED UP UNLOADING

AVOID DEMURRAGE

**ELIMINATE OVERTIME &
NIGHT SHIFTS**

PREVENT DAMAGE TO GRAIN DOORS

with a

**RICHARDSON
BOX CAR UNLOADER**

Guaranteed capacity 10 cars per hour.

Users report that under normal operating conditions they often unload 11 cars each hour—33 cars in 3 hours, 88 cars in 8 hours are some of the reports—

for a labor cost of 29 cents a car!

Unloading grain cars by power shovels is no longer economical for large elevators, transfer houses, or progressive grain dealers, when they can be unloaded by machine at more than 3 times the speed and 1/5 the cost. Labor turn-over is minimized due to healthier working conditions.

MODERN METHODS DEMAND *Speed and Economy*

RICHARDSON SCALE COMPANY

CHICAGO

CLIFTON, N. J.

MINNEAPOLIS

WICHITA

NEW YORK

SAN FRANCISCO

Investigate!



REMOVAL OF FOREIGN MATERIAL CONTROLLABLE

WHAT are the factors that contribute to the ever-present danger of a dust explosion? Everyone connected with the grain handling and grain processing industries knows—rust, smut, humidity, some chemicals for infestation treatment, handling which agitates dust, static electricity, backfires, foreign matter, spontaneous combustion, and just plain carelessness.

Men like Dr. D. J. Price and his staff and organizations like the National Fire Protection Association, the National Safety Council, the Fire Insurance Underwriters' Bureaus, and the Department of Agriculture have done much to educate grain men in control of these factors. Noteworthy have been the contributions of our Midwestern State Universities regarding humidity and bacterial action. Dr. Price has uncovered a tremendous amount of data on static electricity, electrical equipment, safeguards against primary explosions, and in fact put his capable fingers in every dust explosion factor pie there is.

Nevertheless too many of these factors are still uncontrollable, or at least never definitely checked out of the way. That is why these factors which are controllable must be brought under this easily attainable control.

Both theoretically and practically the value of a magnetic separator has been proven time and again—simply by the amount of potentially dangerous ferrous fragments which they have removed from incoming lots of grain. All too many smaller grain elevators are of the mind that a magnetic separator is a necessary evil and that the cheaper one can be bought, the better. Most terminal and sub-terminal operators haven't given it a thought. Others think that screening is sufficient to remove all the dangerous material. But the only practical screen for terminal use is one with a two inch mesh, as otherwise the screen would clog every five seconds.

Naturally, such a screen will keep out wheelbarrows, sledge hammers, wagon wheels and the like, but what about the metal objects which are smaller than two inches? A hex-nut falling ninety feet and striking a concrete wall can send more than a sufficient shower of sparks to set off

the fireworks. And a cheap and poorly constructed magnet cannot do much better than the screen in removing such material.

A good magnetic separator will remove all ferrous metal—and the non-ferrous metal is neither so common nor so generally explosive. With the major factor of explosive ferrous material completely out of the way and devices such as hooded conveyor belts, guarded electrical equipment, vents, scored glass, proper infestation fumigants, good-housekeeping, and scores of other safeguards the possibility of having your plant imitate Vesuvius will be reduced to an ever-lowering minimum.

Bomb for Explosion Tests

"AFTER many years of research we have developed what I think is a new type of bomb for dust explosion tests," advises Mr. A. H. Nuckolls, Chemical Engineer, Underwriters' Laboratories, Chicago. "Briefly, this bomb is about two feet in diameter and about seven feet in length, which will give a comparatively large dust explosion. Provision is of course made for measuring the concentration of the dust and the explosion pressure resulting.

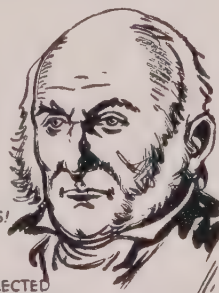
"Details as to the mechanism for obtaining suspension of the dust in the bomb before ignition will be explained in a publication to be issued later. This bomb is now being specially built for us," Mr. Nuckolls says, "and I hope it will be available for use before the end of the year. It is expected that tests with it will yield data of scientific value which will also be useful to members of the Society."

THE POCKETBOOK of KNOWLEDGE BY TOPPS

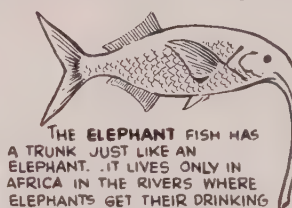


THE OIL INDUSTRY, SPENDING \$12,000,000 ANNUALLY IN RESEARCH, HAS REDUCED THE PRICE OF GASOLINE FROM AN AVERAGE OF 30 CENTS A GALLON, WITHOUT TAX, IN 1920 TO APPROXIMATELY 14 1/2 CENTS TODAY.

ONE PRESIDENT OF THE UNITED STATES WAS **NOT** ELECTED BY THE PEOPLE—BUT BY THE HOUSE OF REPRESENTATIVES!



JOHN QUINCY ADAMS WAS ELECTED BY THE HOUSE AFTER THE ELECTION OF 1824 WHEN NONE OF THE FOUR CANDIDATES HAD RECEIVED THE MAJORITY OF THE ELECTORAL VOTES REQUIRED BY THE CONSTITUTION FOR THE CHOICE OF PRESIDENT.



THE ELEPHANT FISH HAS A TRUNK JUST LIKE AN ELEPHANT. IT LIVES ONLY IN AFRICA IN THE RIVERS WHERE ELEPHANTS GET THEIR DRINKING WATER—AND NO OTHER PLACE IN THE WORLD!



PRODUCTS UNKNOWN 10 YEARS AGO ACCOUNTED FOR 40% OF THE 1937 BUSINESS OF ONE OF THE LARGEST CHEMICAL COMPANIES... AN INDICATION OF WHAT THE LABORATORIES OF INDUSTRY HOLD FOR THE FUTURE



FASHIONABLE MEN WORE TWO WATCHES IN THE 1780'S... THOSE WHO COULDN'T AFFORD TWO, BUT STILL WANTED TO BE IN STYLE CARRIED ONE REAL WATCH AND ONE DUMMY!

*Why—
we can
make this
Sensational
offer!*



The secret behind the success of the "NU-HY" Bucket is its unique design and flexibility.

By continuous spacing we have increased capacities as much as 100%.

Guarantee

"NU-HY" Grain Buckets are definitely guaranteed to increase the capacity of your bucket elevator from 10% to 50% by simply replacing your present buckets. No other changes are necessary.

THE Nu-Hy
GRAIN BUCKET

Trade Mark Reg. U. S. Pat. Off.

No other bucket possesses the features of the "NU-HY." Hence, no other bucket can give you the same results.

"NU-HY" Buckets are a definite means for you to obtain the leg capacity you want, so why not take advantage of our offer.

Write today for engineering and price bulletin, also ask for our Capacity Analysis form No. 76 to enable us to submit guaranteed recommendations. No obligation.

Screw Conveyor Corporation
707 HOFFMAN ST. HAMMOND, IND.
SCREW CONVEYORS HAMMOND PRODUCTS ELEVATOR BUCKETS
TRADE MARK REG. U.S. PAT. OFFICE

KEY MEN AND DRAFT

The mammoth registration campaign is over and the actual drafting of men begun. No valuable men will be enlisted from any industry essential to industrial production, as industry is now recognized as the key to the military effort—whether defensive or offensive. All precautions possible will be taken by the drafting boards to prevent disruption.

If you have men whom you want to keep you can make an effort to have your industry or that class of employee designated as "essential" or you can submit to drafting boards that said employee is "irreplaceable." Chances are that with one out of twenty of the eligible men being actually drafted, very little trouble will arise from loss of key men, no matter what their position or industry.

WELCOME NEWS

PLEASE renew my subscription, as I know it has now expired. You will find enclosed a money order for \$1. I continue to be a loyal booster of the magazine.—Wm. J. Waller, Dearborn, Mich.

BAD ADVERTISING

Dealer: "Ephraim has a bad reputation."

Salesman: "Yes, I saw him with her last night."

Family Day

THE Glidden Company, Chicago, held "open house" for the families of their employees last month. Mama saw the type of work Papa was doing. The experiment was very successful, with 167 turning out.



Emil Buelens,
Production Manager

The previous day the Vice-President from the Cleveland (O.) office gave an informal talk to the staff on the prospective future of the soybean business, told of making wool from meal and other exciting developments, so the family was all primed for the trip.

WARNED IN ADVANCE

Mistress: "When you wait on the guests at dinner tonight, Mabel, please don't wear any jewelry."

New Maid: "Well, I've nothing very valuable, Madam, but many thanks for the warning just the same."

What's Happened Since April?

"AS Vice President of our association assigned to the responsibility of keeping our membership 'ticking,'" states H. L. "Roy" Heinrichson, Terminal Grain Corp., Sioux City, Ia., "I am wondering what's happened temporarily to our momentum? April was a grand month for our body, but we can't blame the rest on the war and the elections. So take a look at the record and then determine to do your bit today! If you do your part and your neighboring member does his, we'll 'arrive' before long at the desired goal. These names are listed in the order in which they turned in new or reinstated memberships:"



- 2 T. C. Manning, Uhlmann Grain Co., No. Kansas City;
- 1 James MacKenzie, Three Rivers (Que.) Grain & Elevator Co.;
- 1 Henry Richardson, Richardson Scale Co., Clifton, N. J.;
- 1 Jack Smith, Sarnia Elevator Co., Sarnia;
- 1 Norman Boadway, Collingwood Terminals, Ltd., Collingwood;
- 2 Fred Sibbald, Grand Trunk Pacific Elevator Co., Ltd., Ft. William;
- 1 Jim Shaw, Canadian Pacific Ry., Port McNicoll;
- 1 Ed Fraenheim, Buffalo Forwarding Corp., Buffalo;
- 1 Earl R. Evans, Evans Elevator Co., Champaign, Ill.;
- 1 Henry Korn, Superior Elevator & Forwarding Corp., Buffalo;
- 1 F. Maynard Losie, Hallet & Carey Co., Minneapolis;
- 1 Percy C. Poulton, N. M. Paterson & Co., Ltd., Ft. William;
- 6 C. J. Alger, Corn Products Refining Co., Argo, Ill.;
- 1 Harley J. Hixson, Continental Grain Co., Kansas City;
- 1 Paul Christensen, Van Dusen-Harrington Co., Minneapolis, and
- 1 Peyton A. Kier, Standard Milling Co., Kansas City.

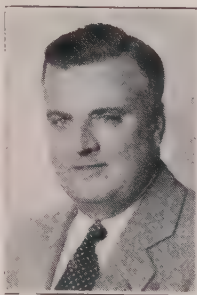
"Heave to, mi' lads, and let's see what you can do, eh?"

561,000,000 WHEAT FOR CANADA

FIVE hundred and sixty-one million bushels of wheat is the total for the Canadian crop this year, according to the Dominion government's report of September 10th. Western Canada contributed 534,000,000 to this total.

Who's Who

"AROUND convention time every year," writes Percy C. Poulton, N. M. Paterson & Co., Ltd., Fort William, President of the Supers' Society, "we begin to wonder what strides we've made in the way of membership. I think we ought to know about this every month, so have had the following prepared. This list shows quite a healthy gain since the 20th of March, and I trust we will surpass any previous year's record during my term of office. The March number of 'GRAIN' carries previous joiners."



- 452 Robert R. Bredt, Fruen Milling Co., Minneapolis;
- 453 James H. McConnell, Cereal Engineering Co., Minneapolis;
- 454 William A. Thomson, Jr., President, Thomson Grain Elevator Co., Louisville;
- 455 Cornelius H. Halsted, Washburn-Crosby Co., Buffalo;
- 456 N. E. Heels, Manager, Great Lakes Elevator Co., Ltd., Owen Sound, Ont.;
- 457 W. H. Cowan, Plant Manager, Maple Leaf Milling Co., Port Colborne, Ont.;
- 458 John H. Lyle, Ralston-Purina Co., Buffalo;
- 459 Herbert R. Kampert, Jr., Swift & Co., Champaign, Ill.;
- 460 John Goetzinger, Rosenbaum Brothers, Omaha;
- 461 Paul Schisler, W. S. Nott Co., Minneapolis;
- 462 John Murison, Goderich Elevator & Transit Co., Goderich, Ont.;
- 463 A. C. Renner, Norris Grain Co., Kansas City;
- 464 Tom Opie, Opie Brush Co., Kansas City, and
- 465 F. H. N. Carter, Buhler Brothers, New York City.



ONE MORE CHANCE

Hangman: "Have you anything to say before I hang you?"

Condemned Golfer: "Mind if I take a couple of practice swings?"

FREE THINKER

A woman is very peculiar, I find
Not a shade of a shade of a doubt
of it—

She's most apt to give you a piece of
of her mind

At the time she is practically out of
it.

—Sateve Post.

EYE FOR AN EYE

Lady: "How did you find the penny I dropped so quickly?"

Beggar: "I'm not the blind man—I'm just sitting here while he's gone to the movies."

Back in the Fold

"I WISH to congratulate those members who have reinstated their memberships in the Society and again become active," writes Paul H. Christensen, Van Dusen-Harrington Co., Minneapolis, First Vice President of the association. "Here is a list of them since last published in 'GRAIN' a year ago:"

- 344 Conrad Johnson, Butler-Welsh Grain Co., Omaha;
- 8 E. R. Anderson, Norris Grain Co., Chicago;
- 383 James L. Brown, Larabee Flour Milling Co., No. Kansas City;
- 47 Robert N. Whinery, B. C. Christopher & Co., Kansas City;
- 51 Camden W. Riley, Hart-Bartlett-Sturtevant Grain Co., Kansas City;
- 231 Matt Pelto, Globe Elevator Co., Duluth;
- 403 Lloyd Burmeister, L. Burmeister Co., Milwaukee;
- 246 Perry H. Wheeler, Van Dusen-Harrington Co., Minneapolis;
- 327 Christopher T. Snidal, Dunlop Tire & Rubber Goods Co., Winnipeg;
- 367 Leslie C. Irwin, Searle Terminal, Ltd., Fort William;
- 215 Russell M. Johnson, Capitol Elevator Co., Duluth;
- 200 Louis Rendell, Pratt Food Co., Hammond, Ind.;
- 64 Frank A. Peterson, Norris Grain Co., Baltimore;
- 3 A. C. Benson, Houston Milling Co., Texas City, Tex.;
- 295 Francois X. Ouellet, National Harbours Board, Quebec;
- 340 Ken Miller, Canadian Pacific Ry., West St. Johns, N. B.;
- 290 John Belanger, Manitoba Pool Elevators, Ltd., Fort William;
- 289 Clarence S. Maxwell, Manitoba Pool Elevators, Ltd., Fort William;
- 396 Edward E. Frauenheim, Jr., Buffalo Forwarding Corp., Buffalo;
- 79 Rudolph Prinz, Rahr Malting Co., Manitowoc, Wis.;
- 245 Peter E. Johnson, Van Dusen-Harrington Co., Minneapolis;
- 358 Frank J. McDermott, Rodney Milling Co., Kansas City;
- 407 Milton N. Martin, Vitality Mills, Chicago, and
- 409 John Voelzke, Archer-Daniels-Midland Co., Milwaukee.



FLAX CRUSHED INCREASES

194,395 tons of flaxseed were crushed by 34 mills during the quarter ending September 30th, as compared with 190,787 tons for the corresponding period a year ago, reports the Bureau of Census. In 1938, 141,210 tons were crushed during this three months, in 1937 214,649, and in 1936, 136,142 tons. Stocks of flaxseed at the mills on September 30th amounted to 197,062 tons compared with 178,764 a year ago.

Jim Shaw Sick; Retiring

OUR esteemed good friend Jim Shaw, Superintendent of the CPR Elevator at Port McNicoll, has been confined to the sick bed for quite some time. Although he will be up and



around again before too long, his company has given him a leave of absence until the end of the year at which time he will be retired. Jim writes that he is very grateful for the consideration shown him by his firm and for the

many kind letters he has received from his fellow Superintendents in the SOGES.



Personnel Relations

THE Arcady "Wonderblast," personnel relations medium of the Arcady Farms Milling Company, Riverdale, Ill., is doing a splendid job of keeping the esprit-de-corps up to fever pitch. Mimeographed, the monthly 10-page publication just completing its second year of existence, is packed full of human interest material, timely topics, safetygrams, company news and gossip, well selected jokes incorporating the names of employees, etc. Gilbert Lane is Advisor, Hank Keir the "Ed."



Gilbert P. Lane

Some of the interesting heads include: Can I be killed by touching an insulated telephone wire?; Is "Arcady" something more than "just a place to work"?; How can I work up to a better job; What does my Foreman think of me?; Is Safety a lot of hokey?; What is meant by "The Last Mile"?; What actual benefits does my group insurance policy give myself and my family?; Is the Waltz Coming Back?, etc.

A new Arcady Employee's book is now being distributed which is sure of further cementing the good relationships existing and give the men a better understanding of some of the problems and benefits relating to the business and their work.

Interesting, too, is the report of their credit union, showing 137 members, 132 depositors and 82 borrowers in the \$7,220.53 fund. Small investors are thus encouraged to save regularly, borrowers are satisfactorily helped, and shareholders receive far more interest than the bank pays.

58 YEARS EXPERIENCE!

That's Why

**DAY
DUST CONTROL
SYSTEMS**

Are What You Want!

Just as experience in handling grain makes for more efficient elevator operation, so experience in the design and installation of Dust Control Systems makes for more effective results at the least cost.

Day installations are designed, fabricated and installed by experienced men.

In Canada: THE DAY COMPANY OF CANADA, Ltd.

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PILLSBURY AVENUE

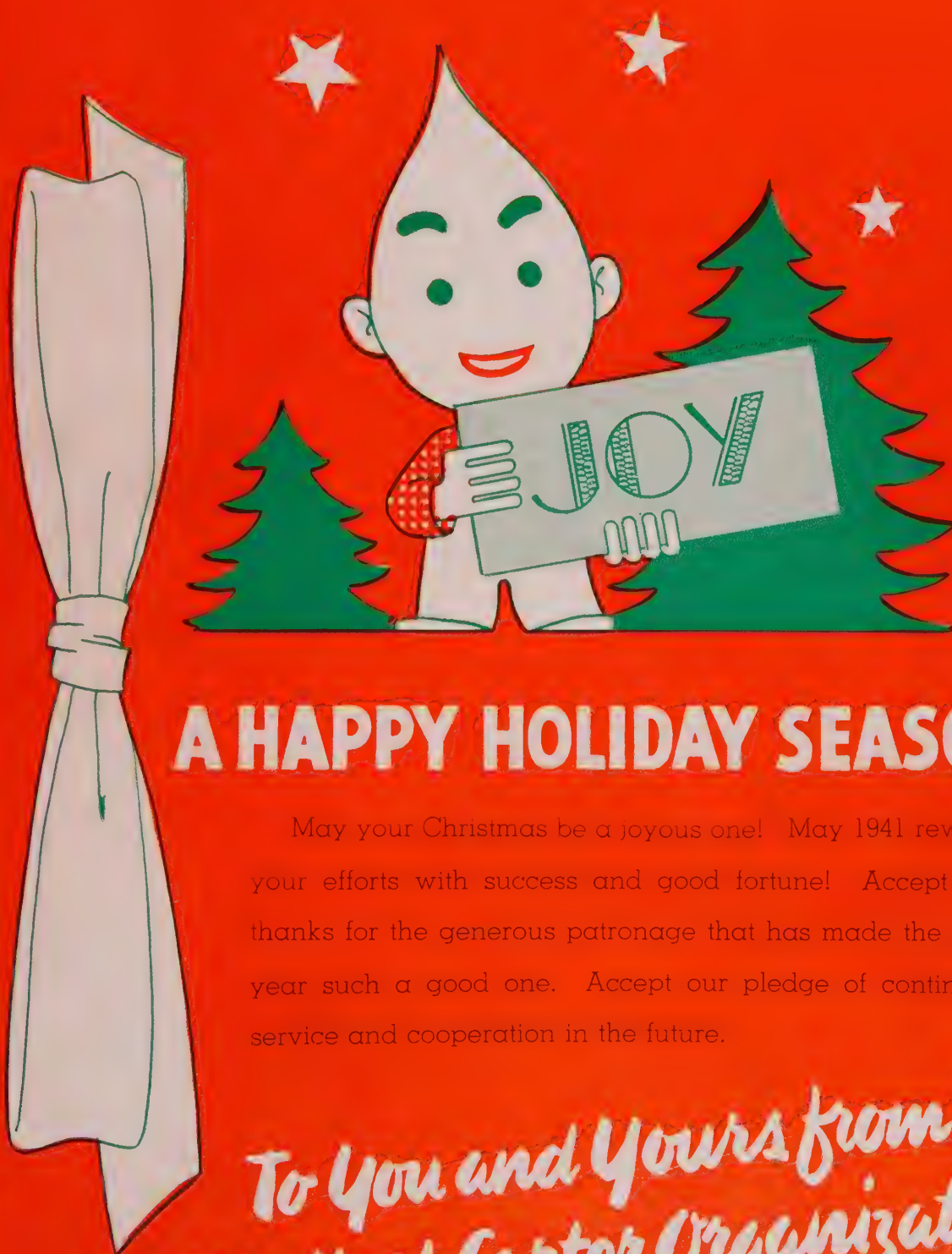
THE DAY CO.

MINNEAPOLIS,
MINNESOTA

GRAIN

DECEMBER

1940



A HAPPY HOLIDAY SEASON!

May your Christmas be a joyous one! May 1941 reward your efforts with success and good fortune! Accept our thanks for the generous patronage that has made the past year such a good one. Accept our pledge of continued service and cooperation in the future.

*To You and Yours from the
Entire Hart-Carter Organization*



SHIBBOLETH FOR MODERNS

ORGANIZATION—to work the wealth of the world—to distribute the wealth of the world—to consume the wealth of the world. Without organization we would work, distribute and consume only the wealth of a small geographical unit.

Of course, by organization it is not meant to say regimentation—for this is fundamentally an enemy of true progress—but rather one thinks of the voluntary co-operation of men whose interests coincide to further those interests to the benefit of one and all.

Getting away from generalities, however, the pooled partial resources of a group make it possible to distribute ideas and information on a large scale through publications, bulletins, chapter meetings, personal correspondence and conventions. We recognize the importance of this type of service for we all know that "one's judgment is never better than one's information".

Other immediate benefits are protection and business leadership, standardization of practices and improvement of ethical relationships.

Naturally, \$10 won't put your success on ice, but your work will become more effective and satisfying and will have more significance as part of a whole rather than an isolated effort.

Write the Secretary today for an application blank for membership in a modern result-producing organization.

SOCIETY OF GRAIN ELEVATOR SUPERINTENDENTS

Board of Trade

Chicago, Ill.

EDITORIAL

A MILITARY AXIOM

“CONSOLIDATION of position” is an old military axiom which was first consciously used by the ancient maritime nations and then definitely developed by the Romans. The Dark and Feudal ages found the principle forgotten or ignored to a large extent and then in the new eras of expansion and colonization, England and France followed its principles to slowly but surely displace Spain and Portugal as world powers of first rank.

Today what with blitzkriegs, panzer divisions, luftwaffe, and daring political and social maneuverings, it seems as though one who stops to consolidate his position is out of the race. One must continue to run at top speed across a tight-wire and pray that one's feet strike safely. And that is just about what everyone is doing! Success is ostensibly the result!!

The question then is: “Is ignoring this axiom a policy which specifically fits this age?” The answer: “No policy ever specifically suited any age, nor was wholly sufficient for a part of an age except when and if it catered to the needs of the age rather than forcing the age to pattern its life after the dominating policy.”

The truth of our unwilling continuance of our reckless pace is that we are in a vicious circle that we wish with all our hearts to get out of, for we want to have a definite purpose for our work, we want a definite long range policy to follow, we want to escape the expediciencies of the moment, we want a chance to use faculties of our make-up other than our reflexes for a while.

We have achieved much in our hecticism, now give us a chance to really enjoy it.

You may say that this is certainly not the time to ask for a chance to enjoy the fruits of one's labor. All the country is doing is preparing for national defense, presumably against the world. Then there are the small matters of national debt, national income, unemployment, surpluses, struggles for markets, and a wavering economic structure.

Well, if we're not worrying about consolidation why worry about any of these last problems except defense? That's what Germany did and the defense (which turned into an offense) took care of all the rest of the problems temporarily. Somehow, however, that type of a solution to a problem smacks something like watered stock. It will turn into a Frankenstein's monster sooner or later.

Well, the crux of the whole matter is that although we're in that vicious circle there are a good many of us who realize the danger, while all of us would like to get out of it. Those who realize the danger, but are realists in their thought have taken a compromise just as during the last war. They're hoping that the heat of the battle won't melt their ice-cream, that they'll be able to keep running across the tight-wire for some time to come. That time enough will come to order our gains, to set other goals rather than those of immediate necessity, when the present crucial times are past. Meanwhile who will act as the vestals of those things we do intend to attend to in due time? Specifically, when if ever will everyone reap the benefits of security, leisure, enjoyment of culture, peace, and plenty which the efforts of the race have entitled us to and put within our potential grasp?

But right now we're most concerned with letting you know we HAVE “consolidated our position” and that the entire “squad” will not “compromise” in the least in wishing you a wholehearted Merry Christmas and a Grand 1941!

POWER REQUIREMENTS *and* *Load Limiting* in GRAIN ELEVATORS

By GROVER C. MEYER
Engineer, Kansas City Power & Light Company

THE purpose of this article is to deal with elevators in general and to treat the equipment as a whole, not attempting to go into the operation of the individual machines other than elevator legs and belt conveyors. Some departure from the subject will be necessary in order to give some explanation of the wide variation in elevator load characteristics.

Considerable progress has been made in power application in the past ten years due both to change in design in motor characteristics and the application of these motors to the load. It has been customary in the past to pay little or no attention to power required for individual apparatus in grain elevators, the elevator designer only being interested in having sufficient motor capacity to operate the particular load. This leads not only to increased investment for power equipment, but also to very poor electrical characteristics of the load.

The data given in this article are taken from elevators ranging in capacity from 250,000 bushels to 10,000,000 bushels. The following characteristics will be given and discussed in the order named:

1. Connected load in horsepower per million bushels of capacity.
2. Kilowatt demand per million bushels of capacity.
3. Load factor.
4. Power factor.

Connected Load in Horsepower per Million Bushels of Capacity

THE connected load ranges from 400 H.P. to 700 H.P. per million bushels of capacity. The wide variation in connected load is due to various causes, namely: Factor of safety; over-motoring in order to get sufficient starting torque, and provision for future expansion. Providing for future expansion as mentioned might be considered good foresight from an investment standpoint, however, from a power standpoint the operator does not have the flexibility, and power demands are created which are greater than necessary to actually take care of his work. Then, too, he is likely on the other hand to be carrying loads of 15,000 bushels per hour on elevator legs and conveyors that have a maximum capacity of 25,000 bushels.

This again creates losses due to low operating efficiencies.

Kilowatt Demand per Million Bushels of Capacity

THE demand for power ranges from 100 to 300 KW per million bushels of capacity. This variation can be laid chiefly to the following causes: Flexibility of the equipment; the nature of the operator's business, and the cooperation the elevator superintendent receives from his employers in directing the movement of the grain in and out of the elevator. Where the high demand is brought about by the particular design of the elevator little or nothing can be accomplished toward lowering this demand, but, where it is a matter of superimposing loads, a reduction in demand is usually within the control of the ele-

Trouble with another kind of capacity—overloading motors—is a constant source of trouble and danger to the elevator operator. Mr. Meyer, a real authority on electricity herein gives the trade the answer to problems in load lifting and power requirements in workable formulas which have been proven correct. Application of the lessons in this article are bound to save much time, effort, and money for the smart superintendent.

vator superintendent. High demands are oftentimes created during the weigh-up period, and when it becomes necessary to transfer grain for the purpose of airing. Experience shows that demands in elevators in most cases can be reduced from 25% to 35% without creating any false economy in labor or loss in time.

Load Factor

LOAD factor is defined as a ratio of the average load to the maximum load over a given period, the maximum usually taken as the highest average half-hour demand. This factor ranges from 4% to 17% based on an operation of 720 hours per month. The usual causes of variation in load factors have been covered in the preceding paragraphs, as this variation is due mostly to unnecessary demands.

Power Factor

POWER factor in grain elevators ranges from 55% to 95%, depending upon the type of motors used, the low power factors being the result of slow speed induction motors, or induction motors partly loaded.

Power Factor Defined. Power factor can be defined as the relation of useful or power current to that used for the excitation of the induction motor. This exciting current is practically constant for all loads and it is obvious that the lighter the load the greater the percentage represented by the idle current. For example, the power factor of one 10 H.P. motor fully loaded will be considerably higher than the 10 H.P. motors each carrying one-half load. While this idle current is a necessary evil in the induction motor, it should be kept at a minimum by proper application of motors with respect to the horsepower required. In maintaining a high power factor, maximum capacity of transformer equipment and power wiring will be available. Power factor correction in most cases is made by the installation of static or synchronous condensers, and in some of the most recent power installations in grain elevators synchronous motors have been installed for the elevator legs. The power factor of this equipment is within the control of the operator.

Power Required by Belt Conveyors

POWER required for horizontal conveyors is affected by a number of factors, namely: Capacity in bushels per hour; width and length of belts; number of idlers; type of bearing; and horsepower required for trip-per.

The following formula is generally used and gives fair results for most applications:

$$HP = \frac{K L}{1000} \times \frac{(T + SB) TH}{16 \cdot 990} \cdot P$$

(Link-Belt)

Where K = constant based on type of bearings and width of belt.
L = length of conveyor in feet.
T = tons per hour of material.
S = speed of belt in feet per minute.
B = weight of belt in pounds per foot.
H = vertical rise of conveyor in feet.

The formula applied to an actual belt handling grain at the rate of 23,900 bushels per hour, showing 21.65 H.P. by test, gives the following results:

The belt in question is 42 inches wide and weighs 6.6 pounds per foot, has a length of 369 feet (P.S.), has a bearing constant (K) of .051 and a speed of 900 feet per minute with tripper requiring three horsepower with no vertical lift.

Calculated Horsepower

$$.051 \times 369 \div \frac{1000}{\left[717 + \frac{900 \times 6.6}{16} \right]} = 23.5 + \text{H.P.}$$

THE following test was made to determine the efficiency and characteristics of a grain elevator leg. The elevator leg was rated at 25,000 bushels per hour, having 807 buckets 20x8x8 spaced 12½" apart, double rows staggered, with a total grain lift of 207 feet. A Falk double reduction speed reducer with a ratio of 870 : 27.2 equal to 32 : 1 is direct connected to the motor shaft and to the head pulley through solid couplings. The motor driving this leg is a Westinghouse Type CS, 175 H.P., 440 volt, three phase, 60 cycle, 900 R.P.M. Wattmeter tests were made of the motor load driving the elevator leg under the following conditions:

1. 30,000 bushels per hour.
2. Approximately 25,000 bushels per hour.

Test Data

Condition of Load	KW Input
30,000 Bus.	179
25,000 Bus.	142

MOTOR data on efficiency curve were plotted, showing the losses, thus allowing an accurate determination of the full load input from 0 output to 200 H.P. output. From this it was found that a 30,000 bushel per hour rate of grain transfer required 210 H.P. at the motor shaft. 188 H.P. is the theoretical requirement to transfer 30,000 bushels per hour of grain, with a total lift of 207 feet, not taking into account the energy and velocity of the grain as it leaves the elevator leg. Since the power required during the test showed 210 H.P. at the motor shaft, this corresponds to a power loss of 22 H.P., or approximately 10%. This is chargeable to the gear reducer and the power required to revolve the belt, as well as the energy consumed in the bearing—the overall efficiency being 82%.

Typical Elevator Installation

The following data show a typical elevator installation:

	A	B	C	D	A	B	C
Capacity, Bu./Hr.	20,000	10,000	25,000	25,000			
Capacity, Lb./Min. (Wheat 60/Bu.)	20,000	10,000	25,000	25,000			
Speed of belt, Ft./Min.	800	725	800	686½			
Grain load, Lb./Ft. of belt..	25.0	13.8	31.2	35.3			
Height, c. to c. in Ft.	220	196	240	205.6			
Grain load, Bu./Hr.	5,500	2,700	7,500	7,258			
H.P. of Motor.....	175	75	200	175			
Theoretical H.P.	158	59.3	182	157.5			
Grain load, H.P. × 33000/Speed (line 3)	6,500	3,070	7,430	7,571			
Bucket size	20x8	12x7	22x8	20x8x8			
Capacity/Bucket, Cu. Ft. ...	.377	.170	.423	.450			
Ditto—80% full .....	.302	.136	.338	.360			
Grain/Bucket (Wheat/48# Cu. Ft.)	14.5	6.5	16.25	17.25			
Bucket spacing, In.	13.6	10.0	12.0	12.5			
Bucket spaces between c. ..	193	235	240	197.5			
Total buckets, straight lift..	386	470	480	395			
Weight grain in bucket—up side*	5,500	3,070	7,800	6,813	5,500	3,070	7,800
Weight each bucket-lbs....	6	4	9	7			
Total bucket weight, each side (c. to c.)**.....	2,316	1,880	4,320	2,765	2,316	1,880	4,320
Size of belt.....	42"7-Ply	26"7-Ply	46"10-Ply	42"7-Ply			
Weight/Ft. of Belt (.025#/Ft./Ply)	7.35	4.55	11.50	7.35			
Total belt weight, each side.	1,617	892	2,760	1,511	1,617	892	2,760
Weight boot pulley and aut. take-up	1,400	1,100	1,750	1,600			
Ditto—on each side.....	700	550	875	800	700	550	875
Total strain in belt.....				11,890	10,133	6,392	15,755
Strain per inch of belt.....				283	240	250	343
Strain per inch per ply.....				40.4	34.3	37.1	34.3

*No allowance for grain in boot and dredging strain.
**No allowance for bolts.

THEY ALSO SERVE WHO ONLY STAND AND WAIT

There are some jobs that don't seem to require much effort at first glance. Take a watchman at a railroad crossing. Smokes a pipe, reads all the papers. A life-guard down on the beach just sits around getting a beautiful tan. In a lighthouse, the keeper may even knit to pass the time.

But there comes a time when these men who only stand and wait are called upon to serve. A train whistles, a swimmer calls for help, a ship's captain sounds the fog horn. Then these men must respond swiftly, skillfully, reliably.

The escape from your building serves the same purpose as the men who only stand and wait. It, too, may be called upon at any moment to serve. It must be ready.

The **POTTER Fire Chute** provides the swiftest, surest escape from a building that science has been able to devise. Even an injured or panic-stricken person has no difficulty in entering the chute and sliding to safety. He can't be pushed aside or trampled by his fellow workers.

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Typical Elevator Layout

THE following data show a typical elevator layout — one in which

particular attention was paid to properly motoring each and every installation:

	H.P.		440 V.	4150 V.
Shovels	8- 15	1160	440 (1)	120
Rec. Belt	4- 10	870	440 (1)	40
Legs	10-200	900	4150 Syn.	2000
Trans. Belts	2- 20	870	440 (1)	40
Drier Leg	1-100	870	4150 (3)	100
Belt to Drier	1- 10	870	440 (1)	15
Belt from Drier	1- 10	870	440 (1)	15
Shipping belts	4- 30	870	440 (2)	120
Distr. Belts	6- 30	870	440 (2)	180
Lower Ship	6- 30	870	440 (1)	180
Top Cross	3- 30	870	440 (1)	90
Gallery	4- 50	870	440 (2)	200
Manlift	4- 5	...	440 (1)	20
From Storage "A"	5- 20	870	440 (1)	100
Screw Conveyors	2- 5	870	440 (1)	10
Car Puller	1- 50	720	440 (1)	50
Driers	3- 25	1800	440 (1)	75
Driers	3- 30	1800	440 (1)	90
Passenger Elevator	1- 15	....	440 (1)	15
Fire Pump	1-100	1750	440 (1)	100
Air Compressor	1- 30	1200	440 (1)	30
Fans	4- 40	1200	440 (1)	160
Receiving Sep.	1- 15	1200	440 (1)	15
Clippers	2- 75	1200	440 (1)	150
Carter	1- 3	900	440 (1)	3
Sump Pumps	4- 3	1750	440 (1)	12
Sump Pumps	1- 5	1200	440 (1)	5
Flood Pumps	1- 20	1200	440 (1)	20
Shops	1- 20+	1200	440 (1)	20
M-G Sets	2- 40	1200-1800	440 (3)	80
	88		2055	2000
				2055
				4055

Total H.P. Connected

- (1) These motors will operate from 4150-440 volt substation "A" at main substation—total 1375 H.P. (3 @ 333).
 (2) These motors will operate from 4150-440 volt substation "B" at top of shipping house—total 500 H.P. (3 @ 150).
 (3) These motors will operate from substation "C" on machinery floor.
 Total 180

2055 H.P. (3 @ 50).

- (x) Rewire—use 2300 volt motor for 440 volts.
 (y) Have 1—50 and 1—60 @ 2300—Rewired for 440.
 (z) Have 100 H.P. @ 2300—Rewired for 440.

Load Limiting or Demand Control

IN ORDER to improve the operating characteristics of the grain elevator with respect to power, one of the following methods can be used:

1. An indicating wattmeter connected to the entire load which will enable the operator to determine at all times the power demand of the elevator. This method of demand control is by far the cheapest, has many disadvantages, and requires constant attention from the operator.

2. The installation of a curvedrawing wattmeter which will not only give the operator the instantaneous loads, but also a record of load over a given operating period, from which an analysis of various load combinations can be made. This instrument can be used with a contact for an alarm system warning the operator when a predetermined load has been reached.

3. A combination of the curvedrawing instrument and a demand meter which records the average power over a given period, can be used. This installation is by far the most desirable, especially when power is purchased from a central station company. An instrument of this kind has been installed in some of the grain elevators, and consists of a contact making demand meter and curvedrawing wattmeter functioning as follows:

The contact making demand meter serves to warn the operator by sounding an alarm should he exceed a predetermined demand. This demand meter is similar in construction and operation to the regular demand meter which records the operation of the plant for billing purposes. The curvedrawing meter is added to give a graphic record showing instantaneous loads and to periodically analyze various combinations of the individual loads. The contact making demand meter has two pointers or indicators operating on a common scale, one point being an indication of the actual load on the plant, the other being adjusted to indicate the load which the operator wishes to carry, or can be termed the ideal load. The operation of this demand meter can be best explained by comparing it to the speedometer of a motor car. For example, when the speedometer indicates 40 miles per hour, it means that at that particular instant the car is traveling at that rate of speed. If it continues at that rate an hour it will have traveled 40 miles. However, if you should reduce this speed at different intervals during the hour, so that at the end of the hour you would have traveled only 20 miles, then your average rate would have been 20 miles per hour even though at times it had reached a maximum of 40. It is upon this same theory that the operation of the contact making demand meter is based — that of recording the average load of the cus-

(Turn to Page 13, Please)

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BARLEY

As Viewed by the Maltster

L. E. Voell, Vice President, Kurth Malting Company,
Minneapolis, before Malting Barley Conference.

WHILE the malting process is a far more complicated matter than the average person realizes speaking in general terms, malting is a process whereby the starches in the barley kernel are converted into soluble sugars. That change, plus a few others, such as the development of flavor, aroma, et cetera, forms the basic material in the brewing of beer and malt syrups. It may sound rather simple, yet the mechanics of the operation and the methods used to produce these changes are highly involved.

All Barley Not Fit for Malt

THE grower and handler of barley is rapidly learning from experience that all barley will not and can not classify as one to be used for malting purposes, of course dependent upon the quality and purpose of the finished malt. He is learning that one lot of barley will receive a better price than another.

A general outline of the malting process may serve to explain why the malt-house buyer is so particular. His judgment is based mainly on physical characteristics, which from his training and experience tells him the type of malt that can be made from that particular sample of barley and is not based on the test weight or official grading although of course these factors do receive consideration. In other words a personal element always enters into the purchase of barley for malting purposes.

Stacked Barley Preferred

THE maltster starts in building up his barley stocks as soon as it starts moving in from the country right after the harvest although the grain actually is not ready for malting until it has been thoroughly matured or dried out, sometimes referred to as "having gone through the sweat." This is one of the reasons that stack threshed grain is always preferred over the field threshed.

When the grain is unloaded at a malting plant it is classified and binned according to mellowness, color, and cleanliness. Preparing the barley for the malting process—whether it be country-run barley or terminal lot barley—all receives a very thorough cleaning. In fact less than one-

Broken, frayed, or skinned barley kernels are about as good as chaff to the maltster. That's why barley buyers so often discount good lots of barley. Broken kernels develop mold and frayed or skinned kernels retard or stop altogether the necessary process of germination. And, worst of all, it is **not** practical to remove such damaged kernels as Elevator Superintendents may not know. Here is a fine article by Mr. Voell of the Kurth Malting Company which will give many a heretofore puzzled Superintendent some valuable tips on how to condition his barley to suit the maltster market.

half of one per cent of foreign material is permitted in the finished product to be classified as a standard grade of malt. This entails from three to nine cleaning operations, the extent being dependent upon the character of the lot to be cleaned.

After this thorough cleaning the barley is graded or separated accord-

ing to the size of kernel—generally into three to four classes which we will term A, B, C, and D. These are binned and malted separately with the exception of the grade, which generally is resold for feed purposes. The reason for three grades is for uniform germination as you no doubt will appreciate a large kernel will not germinate or grow similar to a small kernel—same as a large plant will require more water than a smaller similar plant—and as previously stated a uniform and proper conversion of starches is absolutely necessary.

First Step in Malting Process

THE first step in the malting process is the steeping or soaking of the grain in cold water, temperature not being over 54 degrees preferred. The grain is run into large tanks filled with water for a period of 30 to 72 hours—dependent upon the character of the grain and the temperature of the water. During this period, the water is changed either continuously or periodically but generally every 8 to 12 hours. At the end of the steeping period the grain has absorbed up to approximately 45 per cent moisture.

The steeped grain is then transferred to the germinating house. There

MERRY CHRISTMAS

and a

HAPPY NEW YEAR TO EVERYONE!

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IT TAKES TWO TO MAKE A QUARREL

Neither a spark nor a dust cloud by itself will do any damage; but when the two get together the result is chaos.

Engineers have been working on methods of keeping these two apart. And the most practical way to do it is first to remove the dust . . . especially the fine dust that will suspend itself in just the right concentration to make an explosive mixture with air.

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ROBERTSON SAFETY VENTILATORS remove the more explosive fine dust from elevator legs by continuous gravity action.

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are two different germinating systems which are commonly known as the compartment system and the drum system. In the compartment system the grain is spread out on a floor at a depth of 26 to 36 inches. This floor is made of perforated galvanized metal which is supported above the main floor so as to allow an air duct underneath the grain for ventilating purposes. An agitating machine is used to run through the grain periodically so as not to allow the grain to mat together. These compartments, or boxes, vary in size according to the capacity and design of the plant and range from 1,000 to 5,000 bushel capacity.

In the drum system we have large steel drums that hold between 250 and 600 bushels each. In order to prevent the grain from matting together, the drums revolve similar to a cement mixer only that it takes about 45 minutes to make one revolution. These drums have perforated metal tubes running parallel to an imaginary center shaft through which the fresh air is passed through the grain and the foul air withdrawn. Both systems have their features.

Process Closely Watched

WITH the steeped grain placed either in the drums or compartments the germinating process begins and is very closely watched and regulated by means of temperature control and watering. The air is controlled by a system of ventilating fans and an attemperor room—in other words what we today call air conditioning. The air temperature ranges from 50 to 64 degrees while the humidity is maintained between 96 and 98 per cent at all times so that the sprouting grain does not dry or wither during the germinating period. The temperatures of the grain are maintained from 60 to 80 degrees, depending upon the character of the grain and the type of malt desired.

This germination period generally lasts for a period of six days, although it may vary all the way from 5 to 8 days. At certain periods during this time the grain is also sprinkled or watered to promote the growth, which requires particular attention, dependent upon the character of the grain.

Damaged Kernels Discounted

AT this point I wish to stress the factors regarding damaged grain as it is in the germinating process where the trouble begins. A broken kernel will likely develop mold, which, as you know, is a fungus growth, and will carry along through the brewing process and cause considerable trouble. Skinned kernels, while the germ may develop, do not properly convert the starches of the kernel, for it is the feeding of the germ on the starches that results in the conversion. Frayed kernels will give results similar to skinned kernels, both of which are the result of careless threshing. Another result of skinned and frayed kernels that happens in the process is

that as the grain is agitated by means of the machine in the compartment system or the rolling over in the drum system, the germ and rootlets are very liable to be broken off, thus destroying the power of conversion completely. You no doubt will appreciate that it is impossible to remove skinned and frayed kernels in the cleaning process on account of their being the same size and character as the perfect kernels. Some of the cross broken stuff can be removed but it is very expensive and unsatisfactory inasmuch as a lot of short plump heavy kernels are lost in doing so. From this you will readily understand why the critical barley buyer discounts so heavily otherwise bright and sound lots of barley.

After germination is completed—that is the germ or acrospire, as it is termed in malting, is allowed to develop to about $\frac{3}{4}$ of the length of the kernel—it is transferred to the drying kilns. These drying kilns are of the same principle as the germinating compartments. In fact there are a couple of small, non-commercial installations where the sprouted barley is dried in the same compartment. It is just a matter of closing off the air-conditioning and substituting the heated gases from the kiln furnaces. The drying is accomplished by large ventilating fans pulling the heated gases through the grain. The matter of temperatures here is also a very exacting regulation inasmuch as the final mellowness, flavor, and aroma are wholly dependent upon the method of drying.

There is also another method of drying known as the vacuum system in which the grain is run into large drums very much on the order of the germinating drums. These drums have steam coils for heat and the grain is dried under vacuum. However, to date it has not been proven very successful, on account of the enormous expense both from an equipment and operating standpoint and the results obtained.

Frayed Kernels Always Objectionable

A GAIN, the matter of frayed kernels is objectionable as the drying kilns have agitating machines similar to the compartments and thus the husk is more readily loosened and falls off in the final preparation of the malted barley for shipment to the brewer. The range of drying temperatures is from 100 to 170 degrees Fahrenheit, dependent upon the type of malt desired, and the moisture content is reduced from approximately 45 per cent down to approximately $3\frac{1}{2}$ per cent.

Fuel used in the kiln furnaces may be either of the following: Anthracite coal (either buckwheat or pea), coke, gas or oil, all of which may be supplemented with steam coils. The drying period generally takes 48 hours, the first 24 hours the moisture being brought down to about 12 per cent.

After the completion of the drying

—sometimes called curing—the malting process is completed. The rootlets that have been formed during the germinating process, on account of the dryness of the finished product, now break off during the handling or transferring of the grain from the kiln to the elevator storage bin. So, through the use of air suction machines the rootlets are separated from the grain. Here again frayed kernels may result in objectionable kernels because after all the brewer does require the husks in the brewing process to act as a filter bed in running off his liquid wort from the mash-tun to the brew kettle.

Malt should be aged for a period of at least 30 days before being shipped to the brewer and can be held in good, clean and dry storage indefinitely. It is shipped to the consumer either in cotton grain bags or in bulk, same as the original grain. Malt shipments to the trade are heaviest from about March through August to take care of the hot weather beer sales, so one can readily appreciate the huge stocks of finished goods that must be built up and carried by the maltster to take care of his trade during the busy season.

It has been a pleasure to give this outline of the malting process from start to finish and I hope it will convey a general idea why the malting trade is so exacting in its purchases of barley for malting purposes.

Malt Research Institute to Publish Results of Investigations

THE Executive Committee of Malt Research Institute announces that the data obtained on the evaluation of the two barley varieties, Oderbrucker and Wisconsin Barbless, in

1939-1940 has now been assembled and is in the process of being prepared for publication. The data and results will be published in printed form and will be available for distribution early in 1941.

The two varieties of barley were grown again under comparable conditions on farms in two areas in Wisconsin this past season. The barleys have been cleaned, graded, and malted. Approximately 8,500 bushels of Wisconsin Barbless and 8,100 bushels of Oderbrucker malt will be available for the experimental work.

At a meeting in Chicago on December 6, the Executive Committee made plans for the testing of the malts by the brewing, distilling, and food industries. A sub-committee within each of these industries has been appointed to organize the experimental work. The malt available will be allocated to these industries and distributed for comparative tests after January 1.

Can You or Can't You, That Is the Question

NO MATTER what scale of wages your employees are receiving it is mandatory that you pay them time and a half for overtime if they are covered by the Wage and Hour Law.

DUES to an unlawful company union do not have to be reimbursed by the employer. The Labor Board has no authority to order reimbursements according to a decision rendered by a federal circuit court of appeals.

IF YOU wish to give your employees added duties (along with an increase in wages) and they refuse, their discharge because of refusal is not in violation of the Wagner Act.

CONFINING of business to retail trade wholly within a state does not guarantee exemption from the Wagner Act. A dairy in such a situation was ruled subject to the Act because the wholesaler supplying the dairy got his products from another state.

CONTRIBUTIONS paid to State unemployment funds during 1936, 1937, and 1938 are creditable against federal unemployment insurance taxes. Credit is limited to 90% of the State contribution with no interest allowed.

WHEAT GRIND MOUNTS

WHEAT ground and wheat-milling products accounted for 45,319,131 bushels during October, as compared with 42,267,670 bushels during September, 40,474,213 for August and 38,920,968 for July. The total, however, lags behind that of last year when 43,024,778 bushels were ground in October, 51,101,057 in September, 43,745,637 in August, and 38,832,794 in July.

Holiday Greetings To All

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Relief in Sight

FROM DUSTY TRANSFERS

NFPA Committee Busy Drafting Acceptable Suction or Venting Code

Prefaced by Dr. David J. Price

ALTHOUGH losses from dust explosions have been reduced materially in many of the food-manufacturing industries which have cooperated in working out and adopting practical safety and preventive measures against dust explosions and resulting fires, there is still need for more definite attention to the development and application of methods for the control and prevention of dust explosions in grain elevators. Since 1930, 56 grain elevator explosions have been reported. In those explosions 40 people were killed, 145 were injured, and the property losses amounted to more than \$7,500,000. These 56 explosions were almost 36 per cent of the total number of explosions reported during the period.

Terminal Elevators Worst

IT must be recognized, therefore, that the most disastrous losses from dust explosions are occurring in terminal grain elevators, and that satisfactory progress has not been made in the control of dust explosions in this branch of the grain-handling industry. Much of this can be ascribed to the lack of provision for adequate dust control during handling, storing, and shipping operations.

Antiquated Dust Collectors

IN considering this matter several years ago when it was apparent that extensive losses were occurring, the Bureau of Chemistry in the Department of Agriculture learned that many of the dust-collecting systems installed in grain elevators throughout the United States could not be used, or were dismantled because of the objection of the officials having jurisdiction over the weighing of the grain.

Weighing Departments Involved

THE weighing departments stated that grain weights were greatly affected by the action of suction used in the collection of the dust. Reports of tests conducted by a number of elevator operators, however, indicated that the weight of the dust removed is almost negligible. Some men experienced in grain-handling stated that the weight of dust removed by suction is less than the weight lost in handling grain by means of poor machinery, with no dust-collecting equipment.

Engineering Fundamentals Lacking

CONFRONTED with these conflicting statements, the Bureau of Chemistry made a preliminary study

of the effects of dust collection on the weight of grain. The result of this study showed that much depended on the design and installation of the dust-collecting equipment. In many cases the equipment seemed to have been installed with no knowledge of the fundamentals of good design. In some cases the claims of weighing departments that grain had been drawn out by improper application of suction to remove the dust at certain points between the car which was being unloaded and the scales probably was correct. No information concerning a generally accepted method of applying suction or the proper equipment to

HERE is the story of how, through the co-operation of manufacturers, operators, superintendents and weighmasters, a dust collection code is being prepared for use in the terminal grain elevator industry. Practically all the differences of opinion have been reconciled or compromised and soon the results achieved by many agencies throughout the country will become a part of insurance underwriter's standards. Superintendents everywhere will be awaiting this long needed reform which should do so much to reduce the hazards of grain handling.

use could be obtained. Every elevator seemed to have its own system of dust control and no standards existed. None of the systems was so installed as to permit inspection, nor were any of them so designed that it would be impossible to lift grain by increasing the speed of the fan, with a corresponding increase of suction.

Effective Collection Mandatory

THE Dust Explosion Hazards Committee believes it will be necessary to develop and install effective methods for dust control and collection in grain elevators to reduce dust explosion losses, and that until this is done it will not be possible to make progress in dust explosion control in terminal grain elevators comparable to what has been accomplished in the control of dust explosions in other grain and milling industries. At the meeting of the committee in Chicago on December 4, 1939, the chairman was authorized to appoint a special subcommittee to study this subject

and report to the main committee. The personnel of this committee is as follows:

- Hylton R. Brown, U. S. Department of Agriculture, *chairman*.
- Eugene Arms, Association of Mill & Elevator Mutual Insurance Cos.
- G. F. Butt, John S. Metcalf Co., —Elevator Construction.
- J. A. Mull, Terminal Grain Elevator Merchants' Association.
- A. B. Osgood, Day Company—Dust Collector Design and Installation.
- K. H. Parker, Western Actuarial Bureau.
- J. A. Schmitz, Terminal Grain Weighmasters' Association.

Tentative Code Prepared

TO bring our readers fully up to date, a sub-committee composed of Mr. Parker, chairman, Mr. Schmitz and Mr. Osgood really went to work and thoughtfully ground out a comprehensive, practical and helpful tentative code of regulations. This was studied by the Chief Weighmasters' Association at their annual convention at Louisville and altered to meet their suggestions. The revised code was next prepared and presented for comments and suggestions to the annual meeting of the entire Dust Explosion Hazard Committee which met in Chicago on December 2nd—after unanimous approval of the entire special sub-committee, of course.

Weighmaster's Stand

IN discussing this undertaking before a meeting of the Chicago Chapter of the Superintendents' Society, Mr. Schmitz said that if the Supers would show an honest endeavor to keep down dust clouds at ALL points, the Weighmasters would be sympathetic to the request to apply suction or venting to these transfer locations.



"We have conducted some independent tests to determine the extreme in just how much dust CAN be removed," Mr. Schmitz related. "On one boatload, with all except one trunk blocked off, 6,300 pounds were removed by indirect suc-

tion. On a second boatload 7,500 pounds were removed. The house shrink on these two lots was 12,000 pounds. The dust collection system involved at that was inadequate to take off all the floating dust.

No Legerdemain

"WE Weighmasters MUST see what you take out of the grain entrusted to our custody. Furthermore, dust systems must be arranged so they won't carry off a lot of moisture or an excessive amount of dust.

"The Weighmasters' Association went on record twenty-five years ago as approving indirect suction provided same was equipped with a trap to show what and how much was taken out. We have no objection to a vent from the garner through the roof provided the circulation of air is natural and not forced.

"We will accept all suggestions and attempts to develop methods for really doing a job."

Ingram Richardson of Richardson Scale Company suggested the use of what he termed a "processing-tax dust-scale" to determine what was being removed.

.007% Down to .00036% Loss

CHESTER J. ALGER, JR., Corn Products Refining Company, Argo, President of the Chicago Chapter, told of tests they had run which showed that .007% in weight was removed by indirect suction. This result was based on the handling of 1,791,250 bushels of corn of 16.49 moisture which resulted in 1,250 bushels of screenings figured at 56 pounds per bushel and only 70,000 pounds (not bushels) loss.

Louis Ambler, Glidden Company, Vice President of the Chicago Superintendents' Chapter, found that in handling 43,200,000 pounds of soybeans the recovery of dust, chaff and hulls totaled 15,800 pounds or .00036%.

"A LONG the line of Frank Neilson's (Cargill, Inc., Minneapolis) idea, we enclose our belts for fifteen feet beyond each transfer point. This, we find, keeps our dust problem under control a little better," Mr. Alger pointed out. "In addition, we place a brush on the underside of the belt which revolves in the opposite direction to take off all loose particles."

"The new code we are preparing does not outline methods of collecting dusts," Mr. Kent Parker of the Western Actuarial Bureau said, "but I am sure we can reconcile all our differences.

Much Room For Improvement

"ACCORDING to our records," Mr. Parker continued, "out of 223 terminal, sub-terminal and processing plant elevators ONLY 2 have suction or dust control on the bins, 5 have partial control, 75 have it on garners or bins, 32 have partial control, and 96 have suction or dust control on heads while 19 have it but partially—which shows an alarming situation which doubtless contributes to the poor record of this industry."

Text Soon Available

WHILE the revised tentative code is now in the hands of the Weighmasters for final consideration, copies will become available to the industry upon their approval—for whatever suggestions may be forthcoming as a consequence of its circulation. The code will then be returned to the parent Dust Explosion Hazards Committee of the National Fire Protection Association for presentation and adoption at their next annual convention in May. Then this becomes a part of the standards of each governing agency or insurance underwriter.

Thus we say: "Relief is in sight from dusty transfers," thanks to all

agencies co-operating. This is truly something to look forward to!

Work to Start

WORK on the tentative draft of Safety Practices Pamphlet 104 entitled "Dust Explosions" is getting well under way by the committee in charge, headed by C. J. Alger, Corn Products Refining Company, Argo, Ill., President of the Chicago Chapter. A well diversified group of fifteen members is assisting.

Committeeman

Harold C. Wilber, Superintendent of A. E. Staley Mfg. Company's Decatur (Ill.) elevator says of this work: "There are some suggestions such as the types of leg venting, etc., that a lot of us have been interested in for some time but that have not been widely accepted as yet.

"Most of us have some 'pet' preventative measures that apply to grain elevators; it seems to me that a canvass of the more progressive members of our group might bring out a number of these practices as they are used by different individuals to solve diverging problems in different houses. Some of these would coincide, but it might be possible that some might be new to others and worth practical consideration."

The committee is expected to report soon.

CARRIED over the top of an endless man-hoist, an Ohioan was almost crushed to death. Some lifts have no clearance for a person; this one had no more than necessary.



We Sincerely Thank the Grain and Allied Industries
for the many Pleasant Business Associations

and

Wish You All a Merry Christmas

and a

Happy and Prosperous Nineteen Forty-One

THE DAY COMPANY

2938 Pillsbury Ave.

Minneapolis, Minn.

In Canada: The Day Company of Canada, Ltd.

PROFESSOR QUIZ *helps out*

on *Associates' Night*

PROFESSOR QUIZ took a big hand in the annual holiday-season Associates' Night, held by the Chicago Chapter of the Supers' Society on Friday, December the thirteenth. That the affair was an outstanding success is attested to by the way in which the crowd remained intact for hours upon end, it becoming necessary to finally turn out the lights to get them started homeward. 'Tis a great thing, this social rubbing of elbows and an event that will long be remembered 'round these parts.

Following a sumptuous buffet-style supper of everything imaginable, including home-cooked baked beans and slaw from the personal skillet of Hobart Todd, Hamilton Rubber Company, in whose spacious club-room quarters the festivities were held, Radio Announcer Russell B. Maas, Vice President of the Screw Conveyor Corporation, Hammond, took over the "mike" and fired away. Here are some of the more pertinent questions and answers of specific interest:

Q.: How long does a weevil live?

A.: Too long!

Q.: What is the oldest storage elevator in Chicago?

A.: The Illinois Central Elevator holds a boiler certificate dated 1868, and from the type of construction it is believed this plant to be the oldest, surviving in part the great Chicago fire of 1871. The National Elevator is a close second, according to Bill Burns of the Weightmaster's Office.

Q.: What material is most universally used for the construction of grain storage and why?

A.: Reinforced concrete, because the bulk of the material (sand, gravel or stone) is a natural product and is found in most localities, thereby producing an inexpensive aggregate. It has unusual lasting qualities and its insulating characteristic is above most other materials.

Q.: What is the official combined storage capacity of the Chicago market?

A.: 54, 219,000 bushels.

Q.: What is the largest perfect roller bearing in the world and where is it used?

A.: The largest roller bearing is 40 feet in diameter and is equipped with 4 inch rollers, operating in inner and outer machined races made from 150 pound railroad rails. This bearing can be found on the Richardson Car Dumper.

Q.: What rapid electric moisture testing oven is imported from England?

A.: Carter-Simon.

Q.: What supply house in Chicago has the name of the wealthiest comic strip character?

A.: B. F. Gump Company.

Q.: Name the month and location of the next national meeting of the Society of Grain Elevator Superintendents?

A.: June 9-11, Minneapolis.

Q.: Who was the first man who ran a corner on the grain market and consequently entered the handling and storage phases in then unheard of proportions?

A.: Joseph.

Q.: By what principle does the Steinlite Moisture Tester determine the moisture content of grain and processed materials?

A.: Dielectric capacitance.

Q.: Name seven grains handled in the Chicago market.

A.: Wheat, corn, oats, rye, barley, soybeans, buckwheat.

Q.: What do you do with your copy of "GRAIN" after you've finished reading it? (This is genuine; not a plug.)

A.: File it away for future reference.

Q.: How long has it been since you

last attended a local meeting of the Chicago Chapter?

A.: Too long.

Q.: What former Superintendent is now selling grain machinery?

A.: Phil Grotevant of S. Howes Company of Silver Creek, N. Y.

Q.: What newly designed grain sampler is named for one of the large grain houses?

A.: Cargill Grain Sampler.

Q.: How many active and semi-active chapters has the Society of Grain Elevator Superintendents and where are they located?

A.: Seven. Chicago, Minneapolis-Duluth, Fort William-Port Arthur, Buffalo, Kansas City, Omaha-Council Bluffs, and Enid.

Q.: What is the largest knife edge bearing in the world and where is it found?

A.: The largest single knife edge bearing in the world is 60 inches long and carries a loading of approximately 200 tons. It is found in the side tilt operation of the Richardson Car Dumper.

Q.: Who is traditionally given credit for the invention of the screw conveyor?

A.: Archimedes.

Q.: Are there any wood "storage" elevators in Chicago?

A.: Yes, at least six or more.

Q.: What well known designer and builder has associated himself with an elevator and conveying machinery house?

A.: P. F. McAllister of Screw Conveyor Corporation, Hammond.

Q.: Give the four principal parts of the Zeleny Thermometer System and reasons for its installation?

A.: Pipe, cable, switchboard and reading instrument. It gives comparative temperature readings and the rate of change at fixed intervals throughout the depth of each bin.

Teams Get Prizes

TWO teams were vying with one another, not knowing there were prizes to be awarded. Among the contestants were: William H. Gassler, Rosenbaum Brothers; E. A. Josephson, Albert Schwill & Company; William H. Radke, Corn Products Refining Company; Bernie Kline, Hales & Hunter Company; E. R. Anderson, Norris Grain Company; Gordon Laugen, Archer - Daniels - Midland, Company; Emil Buelens, Glidden Company; William M. Hales, North-

SEASON'S GREETINGS

I

**ZELENY
THERMOMETER
COMPANY
CHICAGO**

western Malt & Grain Company; Mal Littman, Corn Products Refining Company, and John Long, Columbia Malting Company. Needless to say the proceedings were riotous as well as educational, for many general-interest brain teasers were presented in addition to these trade questions.

Much credit goes to Toastmaster William H. Kent of the Kent Equipment Company, and his hard working committee for making the event so successful. H. G. Onstad, designer and builder; Russell B. Maas, Screw Conveyor Corporation; Chet Klaus, Zeleny Thermometer Company, and Phil Grotevant, S. Howes Company, comprised the committee.

The music, microphone, food, et al., was made possible by Art Osgood of the Day Company, Minneapolis; Vic Oliver, Superior Separator Company, Minneapolis; B. I. Weller, Weller Metal Products Company; Chet Klaus, Zeleny Thermometer Company; Harry McKay, Westinghouse Electric & Mfg. Company; Harry B. Olson, moisture testing equipment; Russell B. Maas and P. F. McAllister of Screw Conveyor Corporation; Paul Naehner, B. F. Gump Company; Ingram Richardson, Richardson Scale Company; H. G. Onstad, designer and builder; Charles Phillips, Seed Trade Reporting Bureau; William H. Kent, Kent Equipment Company; Phil Grotevant, S. Howes Company; Frank Butt, John S. Metcalf Company; Art Keenan, U. S. Rubber Company; John Magie, Magie Brothers Oil Company, and Fred T. Melberg, W. D. Allen Mfg. Company, all members of the Chicago Chapter.

Special commendation was given Mr. Todd and Mr. Kent for the exceptional arrangements. The novel idea is something worth trying at annual conventions.

The Chapter's next event is their annual "Ladies' Night" with dinner dance, entertainment and an outstanding speaker. It is scheduled for the middle of January. Last year 78 attended, about tying the Kansas City turnout at a similar event, but losing by a handful to the Minneapolis Chapter's attendance.

THE GRIST

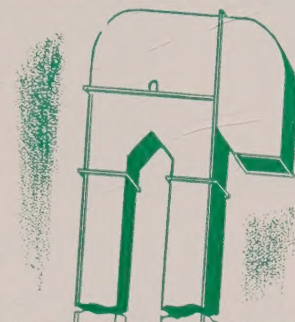
CORN ground during the month of November by eleven refiners of starches, syrups, sugars and other derivatives of corn, totaled 5,976,018 bushels. This was for domestic use only.

Heartiest Seasonal Greetings to our American and Canadian good friends of the grain elevator fraternity, with the sincere hope that 1941 may have in store for all an abundance of health, happiness and prosperity.

THE GODERICH ELEVATOR AND TRANSIT COMPANY, LTD.
"Service in Security"

Goderich, Canada

Is your leg handling the CAPACITY YOU WANT?



If not, it is a sure indication you need "NU-HY" Buckets. "NU-HY" Buckets will step-up your bucket elevator capacity from 10% to 50%. In fact, we have gone as high as a 100% increase in some installations, after making a fact-finding investigation of certain legs.

We may uncover similar inefficiencies in your bucket elevator without the need of making any casing alterations.

The "NU-HY" Bucket is distinctly designed to carry a bigger load without any apparent spillage. Its high sweeping sides, high positioned lip, scientifically designed bottom and continuous spacing possibilities are the secret behind its outstanding performance.

THE Nu-Hy
GRAIN BUCKET
TRADE MARK REG. U.S. PAT. OFF.



Let us make an investigation of your present bucket elevator capacity. Write today for engineering and price bulletin, also Capacity Analysis Form No. 76 to enable us to give you guaranteed recommendations. No obligation.



Screw Conveyor Corporation
707 HOFFMAN ST. HAMMOND, IND.
SCREW CONVEYORS CALUMET PRODUCTS ELEVATOR BUCKETS
TRADE MARK REG. U.S. PAT. OFFICE

POWER REQUIREMENTS AND LOAD LIMITING IN GRAIN ELEVATORS

(Continued from Page 6)

tomer over a given period of holding the demand within predetermined limits by sounding a warning to the operator when the average load is being exceeded.

We can now assume, for the sake of comparison, that the pointers on the contact making demand meter represent two motor cars. No. 1 has a definite rate of speed which represents the average the operator wishes to maintain, or, as referred to above, the ideal load. Car No. 2 travels at a variable rate. If we now attempt to keep car No. 2 at all times at an average speed not to exceed 40 miles per hour, we will adjust the car No. 1 to maintain a constant rate of this speed. However should car No. 2 increase its speed so that the average would be in excess of 40 miles per hour it would overtake car No. 1, making contact with it and sounding an alarm which would warn the operator that he must decrease his speed. In this same manner the operator of the plant would control the rate at which he is using power; instead of miles per hour it would be kilowatts per hour, and in this manner he would keep his load within certain limits.

As explained above, the control of demand in an elevator does not necessarily change or reduce the kilowatt-hours used for the operation of the plant, but merely spreads it over a longer period of controlling the demands and smoothing out the operation. Such control of demand reduces the capacity of power plant equipment in the case of a private plant, and reduces the demand on central station lines in the case of purchased power.

The author has attempted in this article to point out to the elevator superintendent various undesirable power characteristics and how they may be corrected. If this has been accomplished the article has served its purpose, and the author is very grateful for the privilege of presenting this information.

REFUND ON OVERPAID EXCISE TAXES

BY OFFSETTING overpayments against income tax deficiencies assessed against you because of later refunds on the same tax, a federal circuit court of appeals holds that you can lawfully recover, in effect, overpaid federal excise taxes.

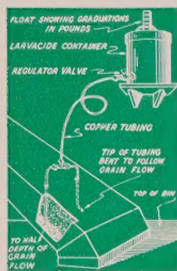


REMOVE THIS SHADOW from your Elevator by these THREE EASY STEPS

1. TREAT INCOMING INFESTED GRAIN with LARVACIDE, to nip in the bud possible trouble from outside.
2. TREAT BIN BOTTOMS to clear up any left-over infestation which will start up trouble in new arrivals.
3. USE LIGHT TREATMENT WHILE TRANSFERRING. This added precaution takes no extra time and is excellent low-cost insurance.

LARVACIDE sterilizes the egg life, in addition to killing the adult insects and larvae.

Large handlers find that grain held in storage six months (and often longer) following treatment with LARVACIDE, can be expected to show no further evidence of damage by insects.



(Drip Applicator) (Funnel Applicator)
Either of these simple devices offer an easy way to apply LARVACIDE to the grain stream.

LARVACIDE is saving money for operators of Terminal, Country and Mill Elevators. Our booklet: *STOP THIS ROBBER tells how to combat weevil and other grain insects.

To Stop RODENTS

Light dosage of LARVACIDE, a pint to each 7000 cubic feet brings rats out to die in the open, without carcass nuisance. For outside burrows use 1/2 fluid ounce. Enough of this gas lingers in indoor retreats to prevent reinfestation for a long time. *PUBLIC ENEMY NO. 1 is the title of our booklet that tells how to deal with rodents successfully.

*Write for both these booklets.

Larvacide

CHLORPICRIN

Cylinders 25, 50, 100 and 180 lbs., also 1 lb. Bottles, each in safety can, 6 and 12 to wooden case. Stocked in principal cities.

CHICAGO • CLEVELAND • BOSTON • PHILADELPHIA • OMAHA

INNIS, SPEIDEN & CO.

Established 1816

117 Liberty St. New York

George H. Stingel Dead

NEWS has just reached us of the untimely death of Mr. George H. Stingel Sr., well-known and much-esteemed Superintendent of the East Peoria Elevator in Peoria, Ill.

Mr. Stingel died on July 22, of an illness brought on by a heart ailment. We are sorry that we were unable to express our regrets in a more timely and appropriate manner.



News From Omaha

"HERE'S our best wishes to all the other chapters and members of our Society, and the Season's Greetings, with lots of prosperity and much less grief during the coming year," writes Charles F. Walker, Archer-Daniels-Midland Company, on behalf of the Omaha Chapter.

"Charlie" also reports that Frank L. Guinan is now the Superintendent in charge of the Crowell Elevator since the unfortunate death of Arvid Anderson on the 13th of December. Mr. Larkin, formerly Superintendent of the Butler-Welsh Gateway Elevator, is now with Archer-Daniels-Midland Company at Minneapolis and Mr. Earl Mahan has taken his place.

Greetings From Chicago

MR. C. J. ALGER, President of the Chicago Chapter writes, "The Chicago Chapter extends the Season's Greetings to the members of its Association and expresses its sincere gratitude for the accomplishments during the year 1940, which it is confident will be carried on during the forthcoming year."



"Jim" Shaw Says

"BEST wishes and a Merry Christmas to all the members and my other friends in the grain trade. Am happy to say I'm feeling well again, and want to express my appreciation of the many letters received during my illness, particularly messages from the Kansas City Chapter. I will be retired from the service the last of this year, so I hardly expect to attend the Minneapolis Convention. The Convention at the Royal York in Toronto and the co-operation I received from all the members will always be a happy memory."—G. J. "Jim" Shaw, Port McNicoll, Ont.



Arvid Anderson Dies

THE very sad news reached us just as we were going to press that Arvid Anderson of Omaha passed away on the 13th of this month.

Mr. Anderson was ill for over a year. After putting up a brave fight to regain his health it was finally learned that he would be paralyzed for life.

Well known and widely admired by everyone, Mr. Anderson was an outstanding grain man. Formerly Superintendent of the Crowell Elevator Company in Omaha, one of the founders of the Society of Grain Elevator Superintendents of North America as well as its Omaha Chapter, and ever active in many and diverse circles, his death will be a genuine loss in grain trade circles throughout the Continent.





Season's Greetings

OUR Society is making rapid strides and is definitely destined to fulfill all of the high expectations of its founders!

The full realization of all of our ideals and purposes will surely materialize if we, its Officers, Directors and Members devote our best efforts to our Society's affairs during the coming New Year.

Our sincere wish for every other Officer, Director, Member and Company Executive with whom we are associated is that each and every one may enjoy a Very Merry Christmas and a New Year of much health, happiness and prosperity.

Yours Sincerely,

Percy C. Poulton

President.

Left to right above are most of the Officers and Directors of the Superintendents' Society, others of whom appear on these pages. This mighty fine group include: President Percy C. Poulton, N. M. Paterson & Co., Ltd., Fort William; First Vice President Paul H. Christensen, Van Dusen-Harrington Co., Minneapolis; Second Vice President H. L. Hennrikson, Terminal Grain Corp., Sioux City, Ia., and the following Directors: Andrew Rankine, Canada Malting Co., Ltd., Montreal (whose photograph we unfortunately do not have); Herbert C. Brand, Quaker Oats Co., Cedar Rapids; W. A. Thomson, Jr., Thomson Grain Elevator Co., Louisville (shown below); Ralph E. Garber, Enid Terminal Elevator Co., Enid (first in second row); Jack Smith, Sarnia Elevator Co., Ltd., Sarnia; R. B. Pow, Reliance Grain Co., Ltd., Fort William; Jim Shaw, Canadian Pacific Ry., Port McNicoll (shown across the page); Harold C. Wilber, A. E. Staley Mfg. Co., Decatur, Ill. (shown on page 11), and Gilbert P. Lane, Arcady Farms Milling Co., Riverdale, Ill. Past Presidents, Chapter Presidents and Secretaries, likewise Directors, join in this Greeting.

Louisville's Greetings

"AS WE look in retrospect at the accomplishments of the past year, those achieved by the Society of Grain Elevator Superintendents are not the least,—having done a great deal of good not only for the members, but also for the various corporations which the Superintendents represent.



"It has been and is a pleasure and a privilege to be associated with the various gentlemen who make up the Society and it is my earnest

hope that the Association and all of us will continue to enjoy the Association's benefits for many years to come.

"Extending to the officers, directors, and members the happiest of Christmas greetings, we remain, Sincerely, W. A. Thomson, Jr., Thomson Grain Elevator Company, Louisville, Ky."

Greetings

from

B. F. GUMP CO.

CHICAGO



MANUFACTURERS OF
MILL and ELEVATOR
MACHINERY
AND
SUPPLIES

A Toast

SOGES

May Christmas bring you good cheer and that the Brotherhood of Mankind be amplified in the New Year.

Sincerely,

E. H. Franke

President

**THE STRONG-SCOTT
MFG. CO., LTD.**

WINNIPEG

Toronto

Calgary

Manager's Night at K. C.

PEYTON "JIM" KIER tells of a really grand meeting (86 in attendance) in Kansas City at the Phillips Hotel on the 17th of this month (December).

This was the previously announced "Manager's Night" meeting. Mr. Malsby of the Socony-Vacuum Oil Company was the chief speaker and gave a grand talk. Other speakers called on to say a few words were Mr. Hart of Hart-Bartlett-Sturtevant; Mr. Buffington, Missouri State Warehouse Commissioner; Mr. Schuler, Federal Grain Supervisor; Mr. S. P. Fears, Missouri State Chief Grain Inspector, and Mr. Oscar Cook, Jimmy's illustrious boss at Standard Milling Co.

"Jim" and the KC Chapter also want to wish the rest of the Society and the grain trade a Very Merry Christmas and a Happy New Year.

"Hurrah" for All

"GIB" FRANKS, Secretary of the Chicago Chapter of the Super's Society, says, "I'm very glad to avail myself of this opportunity of wishing a Merry Christmas and a Happy New Year to all my fellow members in the Society and friends throughout the grain business. Let me say about 'GRAIN' that it fills a place in the grain industry that no other magazine



does; it can truly be called 'one of the family,' with the personal touch of a house organ plus the editorial coverage of an industrial paper."

*It wouldn't be a New Year
without a New Resolution -*



Easily applied right in-
to grain stream. No
costly apparatus. Com-
pletely volatile. No
residue.

Weevil-Cide
The
DEPENDABLE
GRAIN FUMIGANT

Eliminates
Weevil, Bran
Bugs and
Moths in
Stored and
Transit Grain

Regardless of what subjects you consider, there is one resolution that should be uppermost, owing to its relative importance to you in your business.

Are you using the "hunch" or "doodle-bug" method of controlling the insect infestation of your grain? The "hunch" method—combining luck with moderate turning is dead. Its batting average always was poor.

The "doodle-bug" plan of using weevil nostrums with the optimistic results prophesied, inevitably exposes a false prophet at the end of the season with the grain seriously damaged.

Begin the year with a determination to use only the best:—

WEEVIL-CIDE, the fumigant, whose many points of excellence make it a stand-out today—a stand-out from the essential standpoint—an undeviating record of results that has merited its general acceptance by the trade throughout the length and breadth of the land. There is no longer any question of its superiority with them, so why should you accept the false claims and questionable results of others "just as good" as

Weevil-Cide
The
DEPENDABLE
GRAIN FUMIGANT

Serving you today—conserving for you tomorrow.

Write today for information.

The Leading
Fumigant
In Elevators
and Mills

The Weevil-Cide Co.

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KANSAS CITY, MISSOURI
